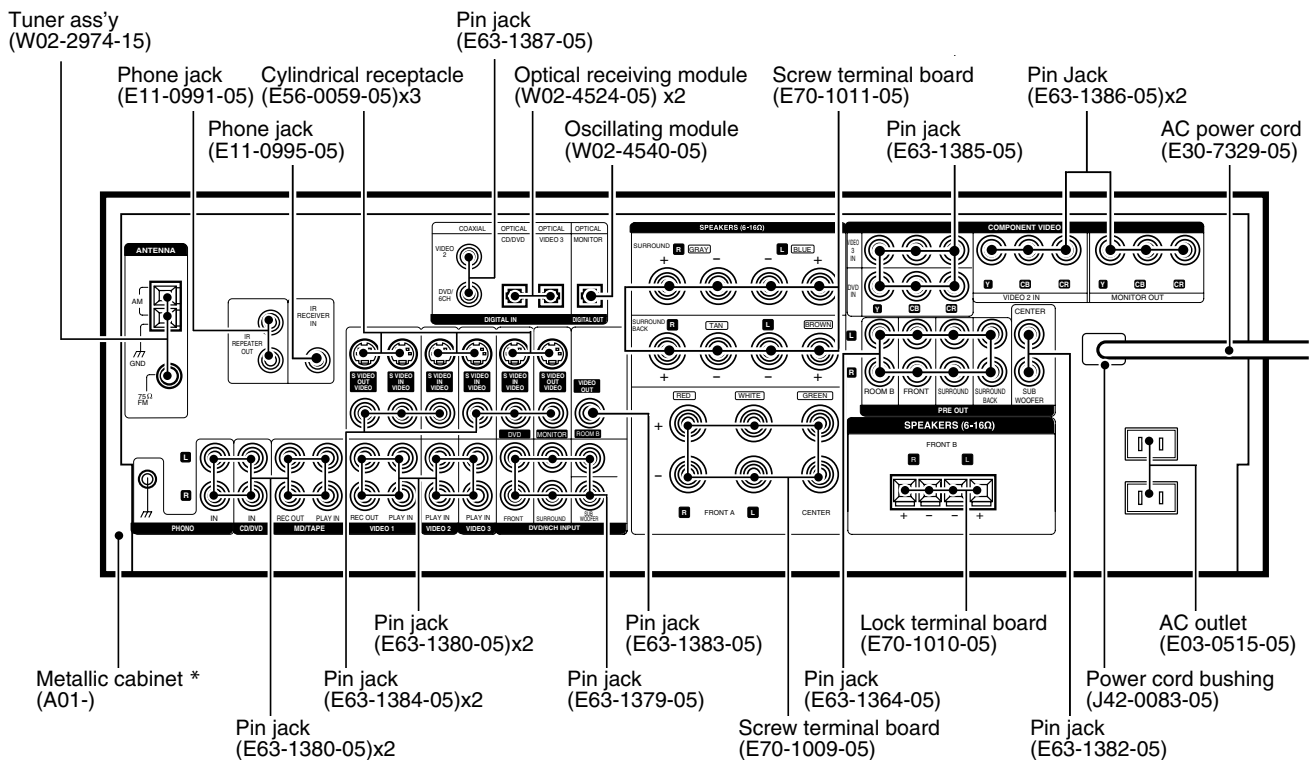


# KRF-V7090D/V7090D-S/VR-9050 VR-9050-S/9060/9060-S/9070/9070-S SERVICE MANUAL

# Kenwood Corporation

Diagram illustrating the front view of the Kenwood B10 receiver, showing various components and their corresponding part numbers:

- Knob \* (K29-)
- Panel \* (A60-)
- Front glass (B10-5563-02)
- Knob \* (K29-)
- Knob \* (K29-)
- Phone jack (E11-0993-05)
- Foot (J02-1467-03)x4
- Knob \* (K29-)
- Dressing plate \* (B03-)
- Door \* (A52-)
- Knob \* (K29-)
- Cylindrical receptacle (E56-0060-05)
- Pin jack (E63-1388-05)



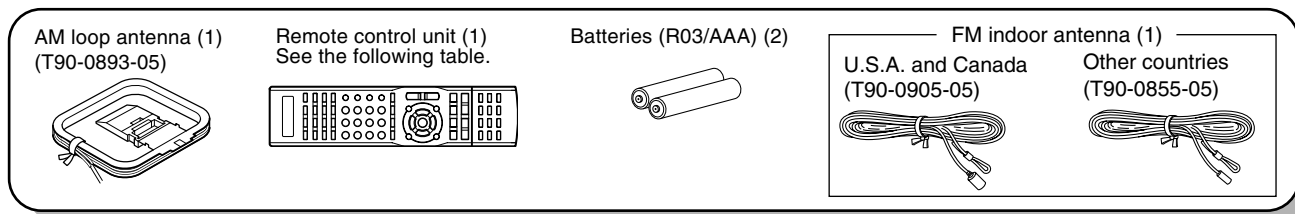
**\* Refer to parts list on page 32.**



# KRF-V7090D/VR-9050/9060/9070

## ACCESSORIES / CAUTIONS / ADJUSTMENT

### ACCESSORIES



### PCB vs MODEL

MODEL		SURROUND	AUDIO	SUB	DISPLAY
VR-9050/-S	K,P	X08-3390-10	X09-6960-10	X13-7960-10	X14-7900-10
VR-9060/-S	K,P	X08-3390-11	X09-6960-10	X13-7960-11	X14-7900-11
VR-9070/-S	K,P	X08-3390-12	X09-6960-10	X13-7960-12	X14-7900-12
KRF-V7090D-S	X	X08-3390-10	X09-6960-71	X13-7962-71	X14-7900-71
KRF-V7090D/D-S	E	X08-3392-71	X09-6962-71	X13-7962-71	X14-7902-71

### REMOTE CONTROL vs MODEL

MODEL		PARTS #	CONTROLLER #
VR-9050/-S	K,P	A70-1673-05	RC-R0731
VR-9060/-S	K,P	A70-1671-05	RC-R0829
VR-9070/-S	K,P	A70-1675-05	RC-R0918
KRF-V7090D-S	X	A70-1674-05	RC-R0731E
KRF-V7090D/D-S	E	A70-1674-05	RC-R0731E



6CH INPUT

### CAUTIONS

#### Resetting the Microcomputer

The microcomputer may malfunction (unit cannot be operated, or shows an erroneous display) if the power cord is unplugged while the power is ON, or due to some other external factor. If this happens, execute the following procedure to reset the microcomputer and return the unit to its normal operating condition.

Unplug the power cord from the wall outlet, then plug it back in while holding down the **⏻ (POWER ON/STANDBY)** key.

- Please note that resetting the microcomputer will clear the contents of the memory and returns the unit to the state it was in when it left the factory.

#### Memory back up function

Please note that the following items will be deleted from the unit's memory if the power cord is disconnected from the AC outlet for approximately 1 day.

- Power mode
- Input selector settings
- Speaker ON/OFF
- Volume level
- BASS, TREBLE, INPUT level
- TONE ON/OFF
- LOUDNESS ON/OFF
- Dimmer level
- Listen mode setting
- Speaker settings
- Distance setting
- Input mode setting
- Sound mode settings
- Broadcast band
- Frequency setting
- Preset stations
- Tuning mode
- ACTIVE EQ mode
- GAME mode setting

### ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT SETTINGS	ALIGNMENT POINTS	FIG.
AUDIO SECTION		SPEAKER : A					
<1>	IDLE CURRENT *	-	CN11, FL ch. CN10, FR ch. CN14, SL ch. CN13, SR ch. CN12, C ch. CN15, SBL ch. X09(A/4)  CN706, SBR ch. X13(F/6)	(FRONT 2ch MODE) Volume: Minimum	VR1(FL) VR2(FR) VR3(SL) VR4(SR) VR5(CENTER) VR6(SBL) X09(A/4)  VR702(SBR) X13(F/6)	Adjust every potentiometer 10 minutes later after turned the power on.	

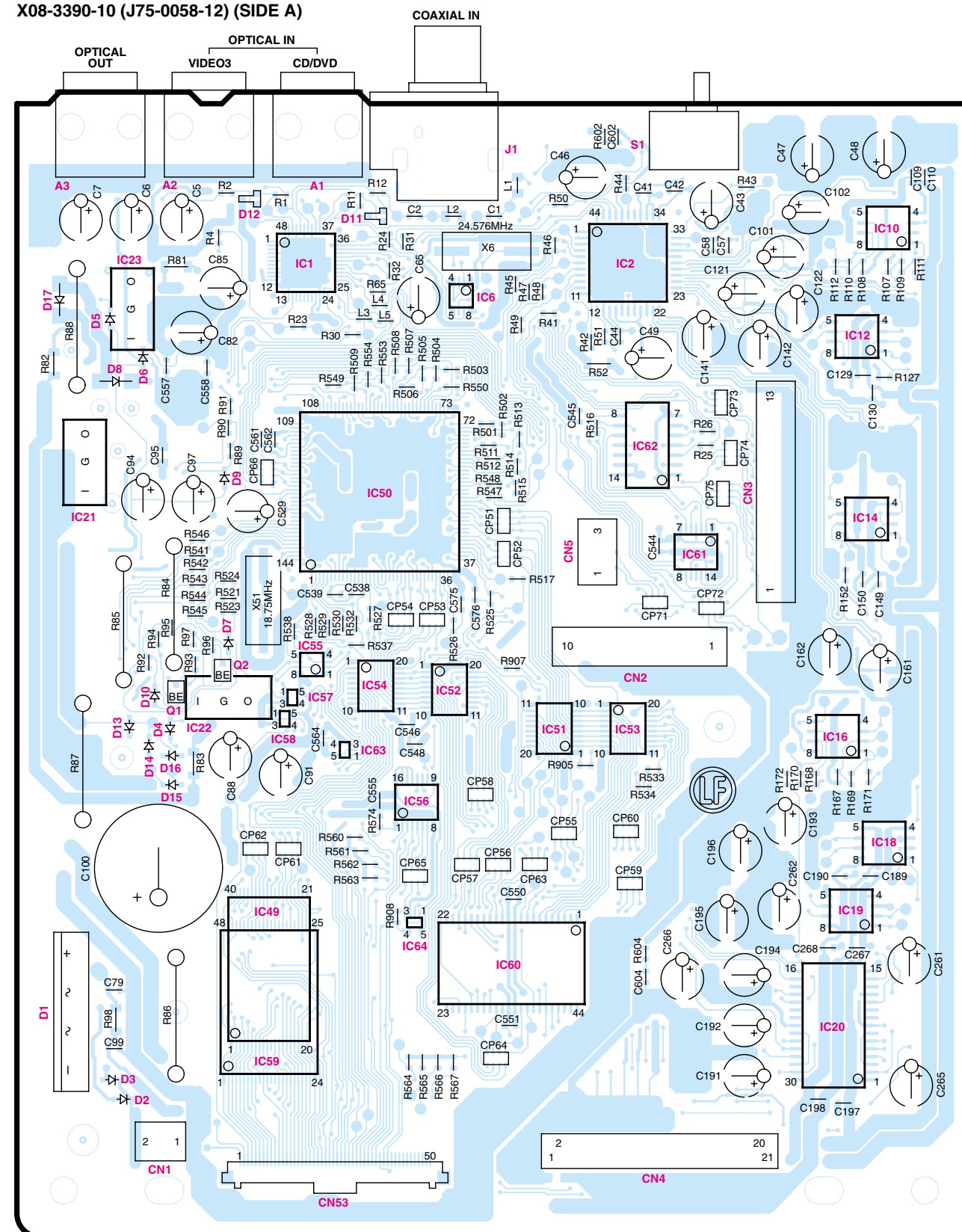
#### \* Idling Current Adjustment

All power amplifier stage need idling current adjustment after the installation of TRAIT transistor.

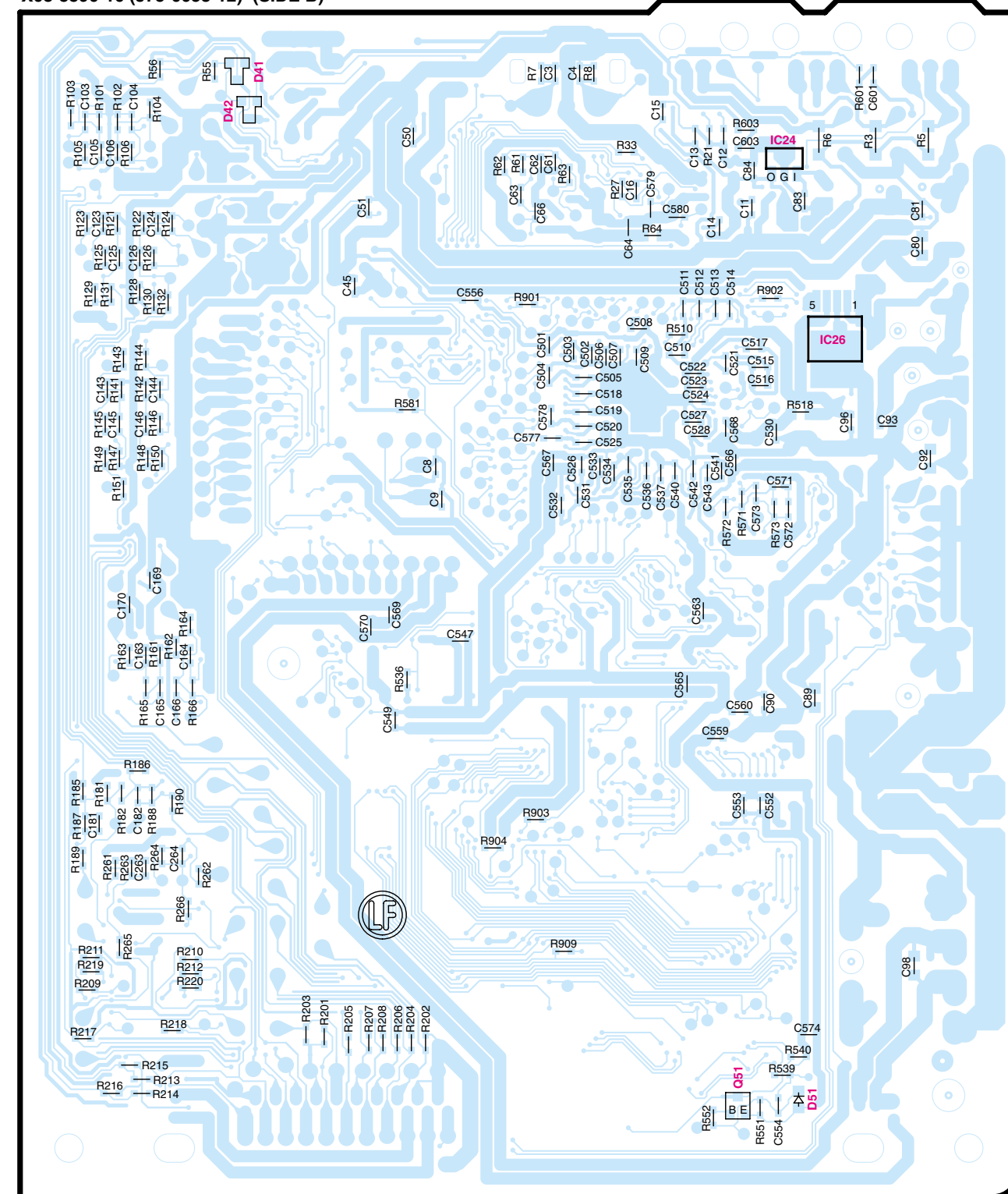
- Connect a voltmeter to CNs with the correct polarity as indicated by the PCB silk print.
- Adjust the preset, VRs to get 8.8mV (Idling current = 20mA) at the voltmeter reading.
- Repeat step few times for all channels.

# PC BOARD

X08-3390-10 (J75-0058-12) (SIDE A)

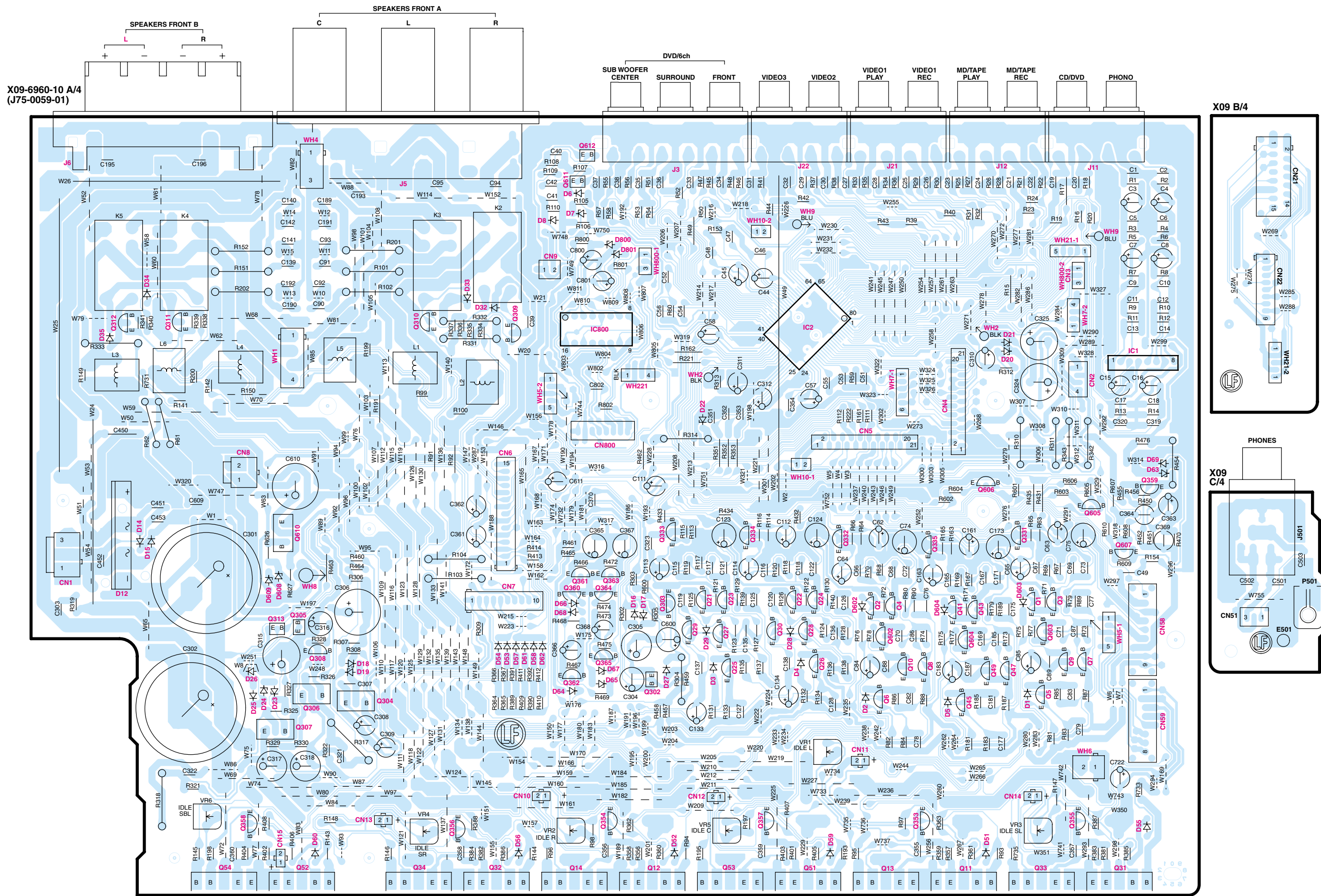


X08-3390-10 (J75-0058-12) (SIDE B)

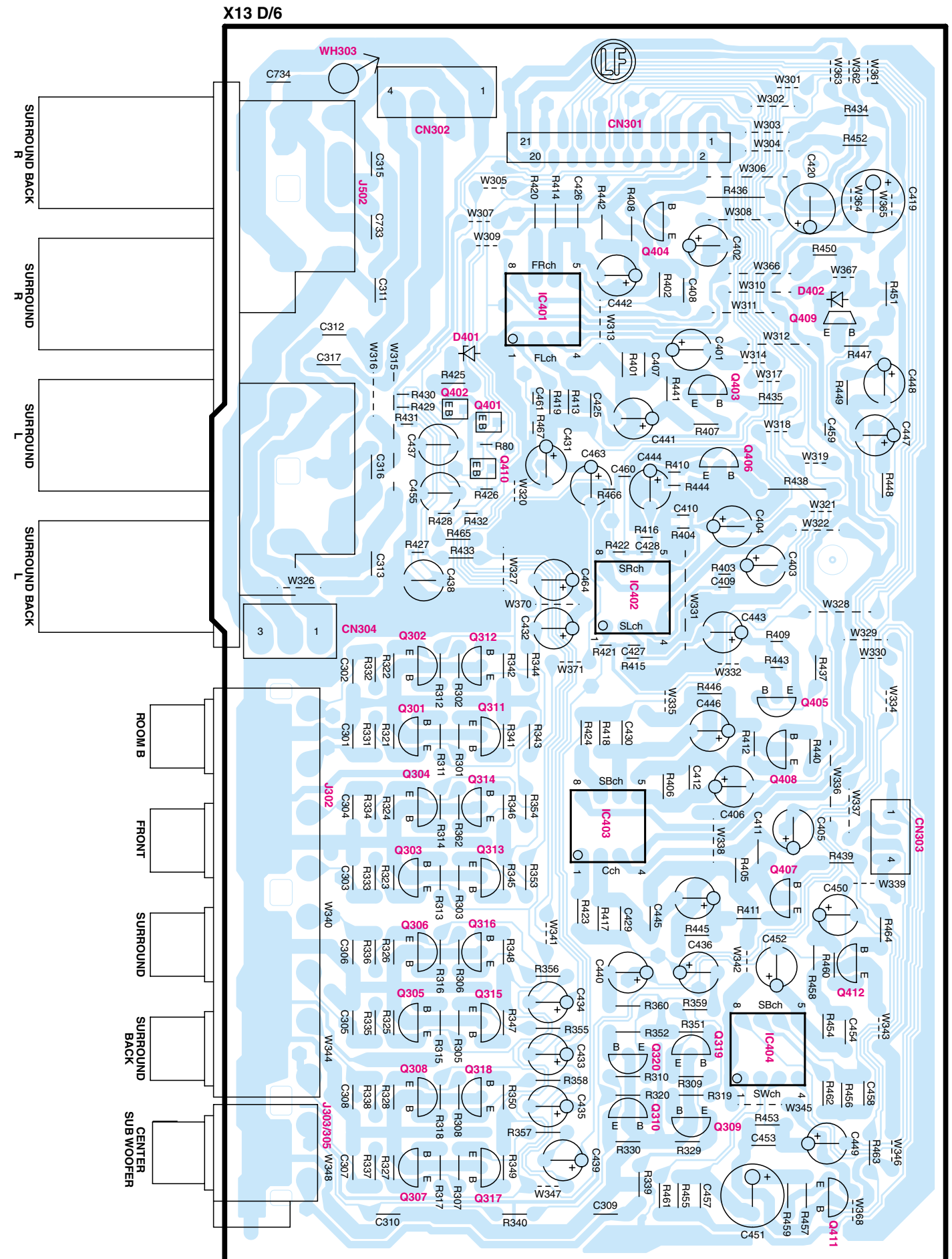
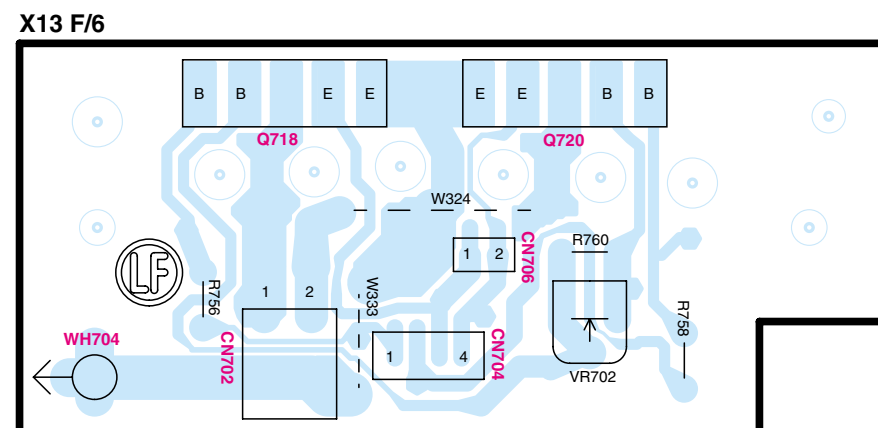
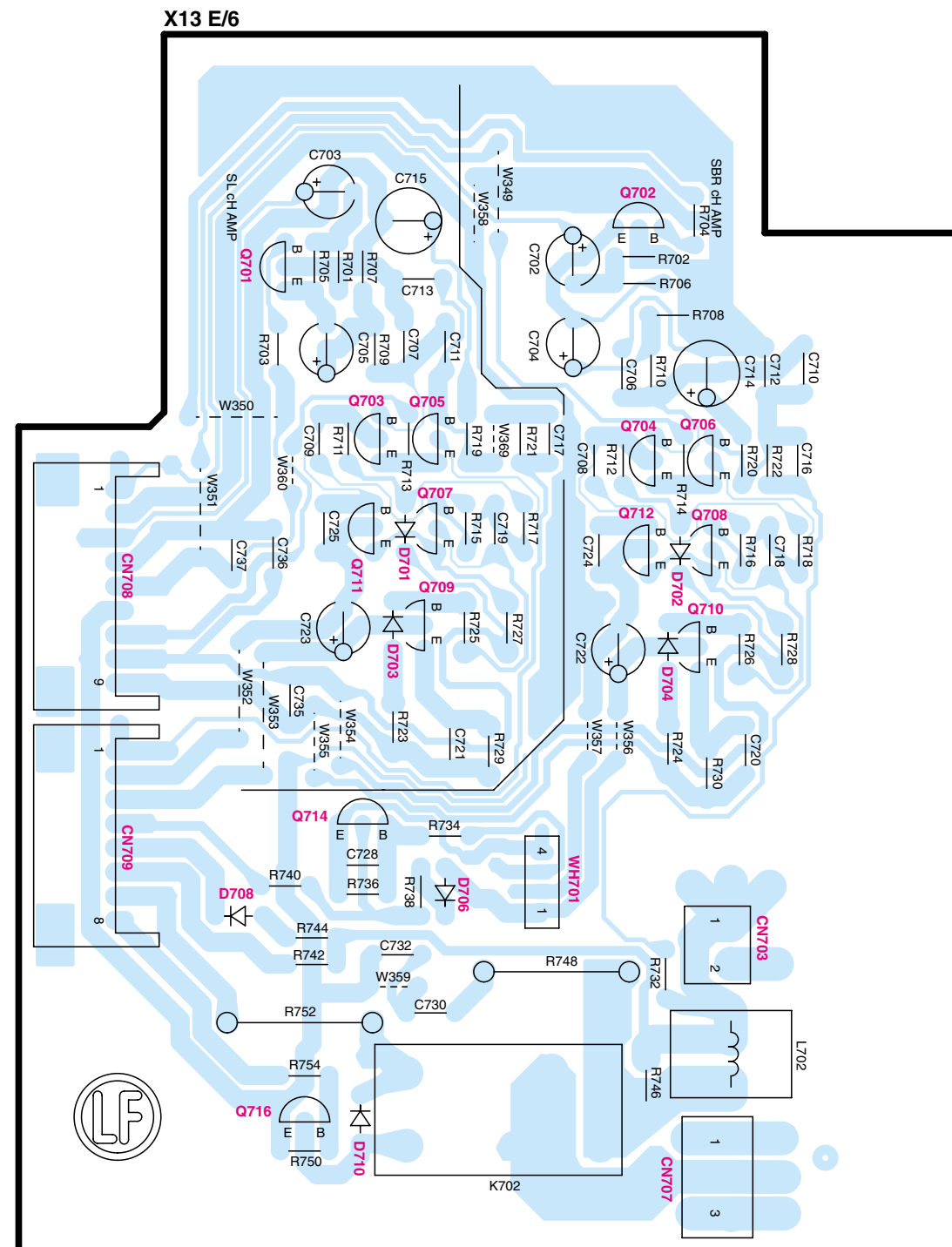




PC BOARD



## PC BOARD

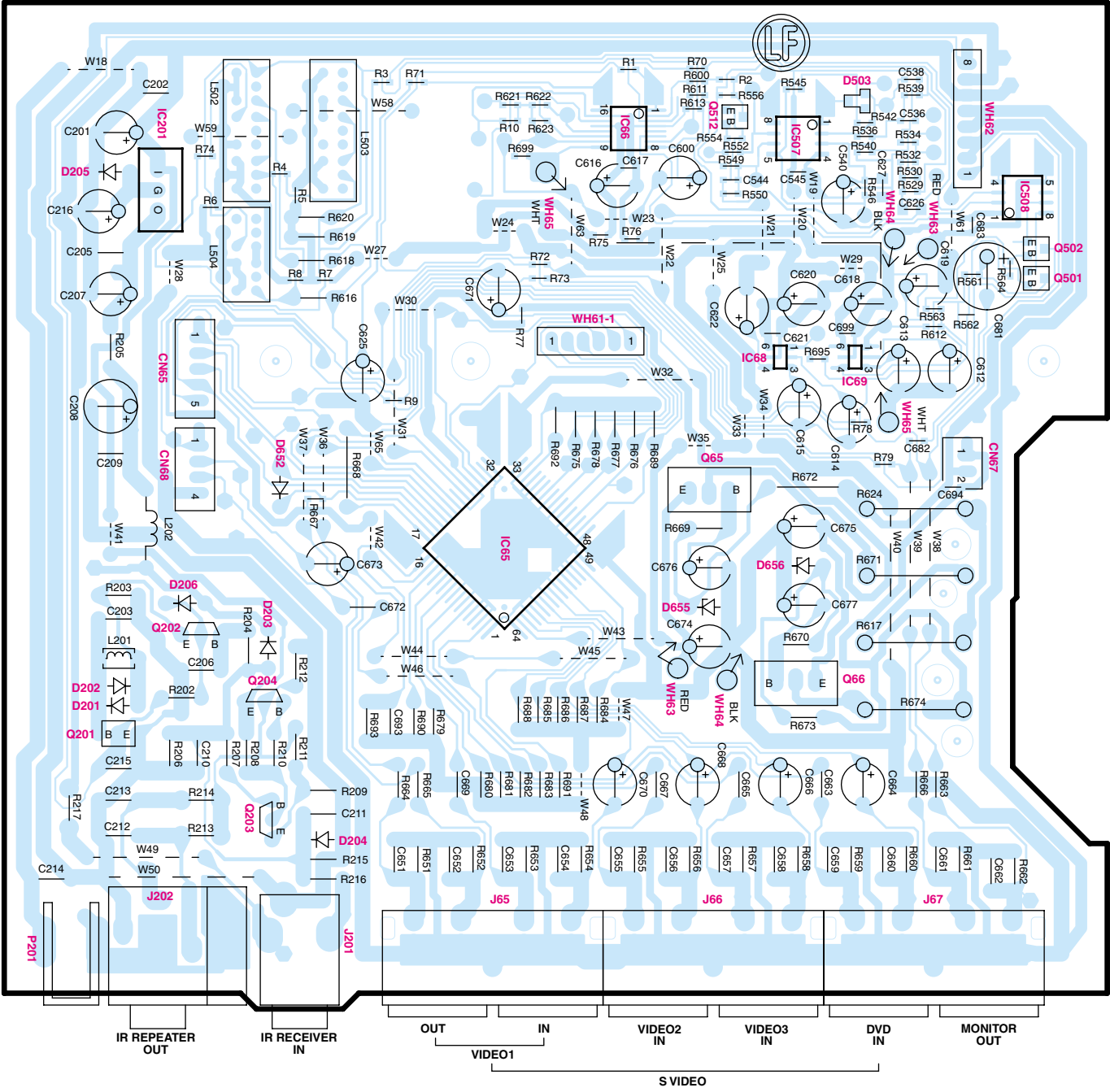


Refer to the schematic diagram for the value of resistors and capacitors.

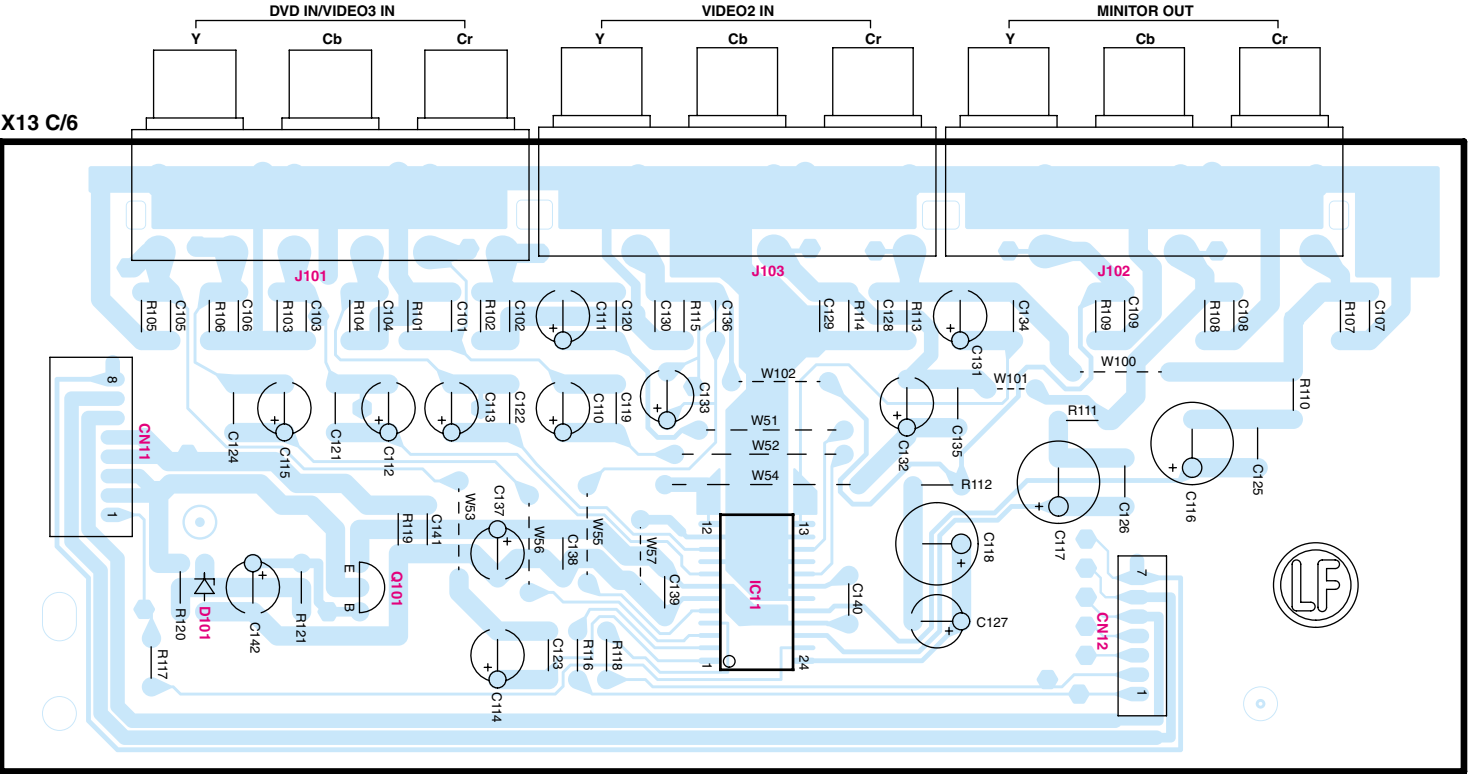


PC BOARD

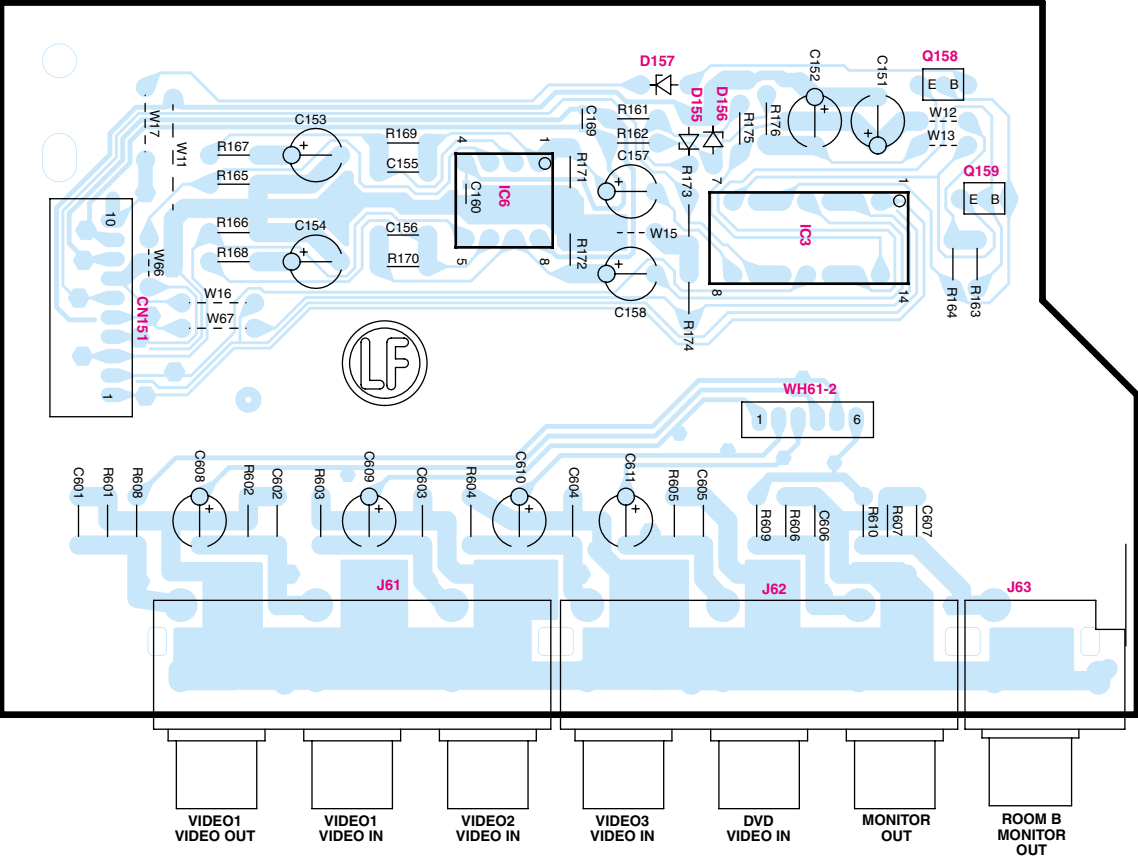
X13-7960-10 A/6 (J75-0060-01)



X13 C/6

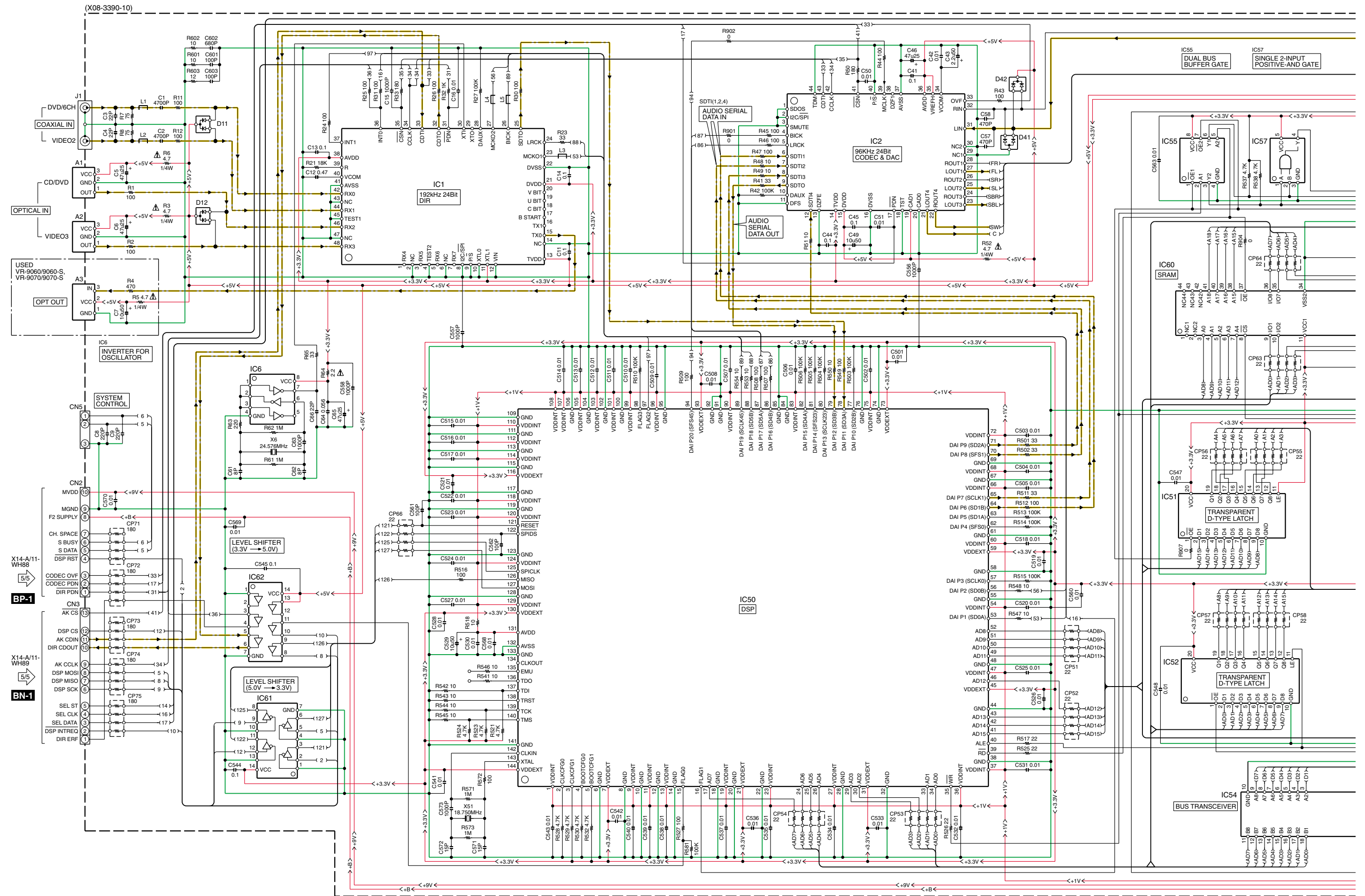


X13 B/6

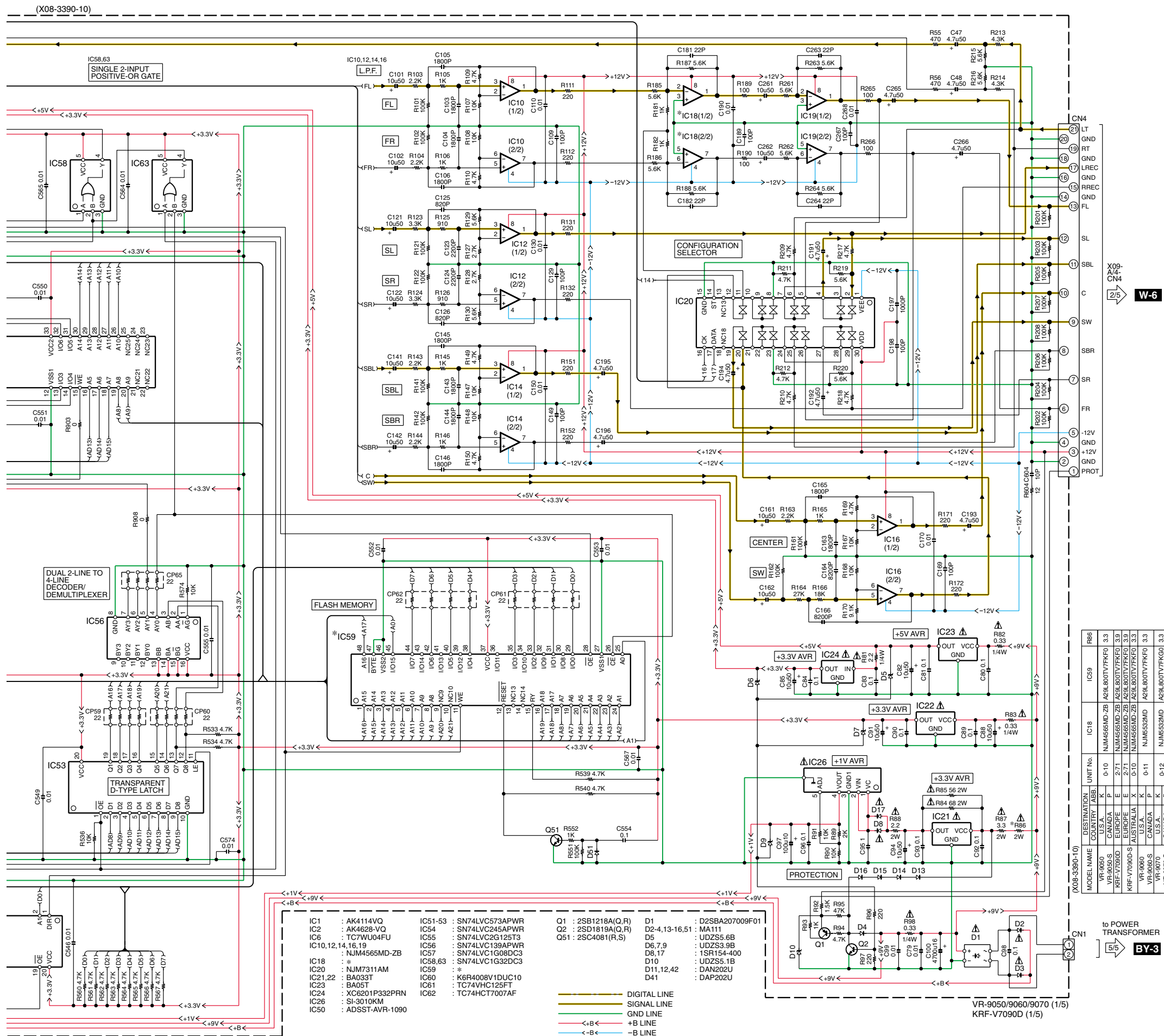




# KRF-V7090D/VR-9050/9060/9070



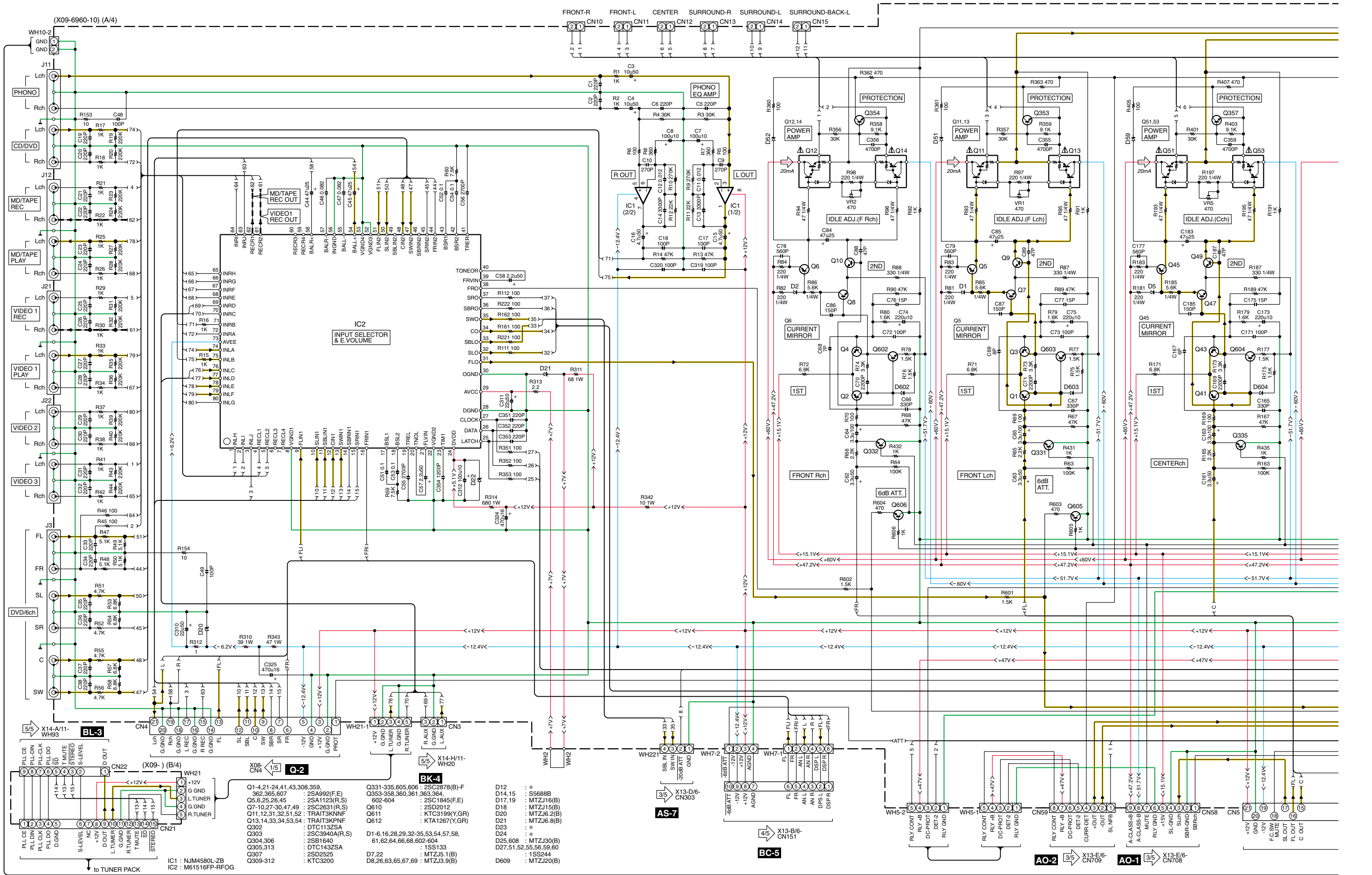


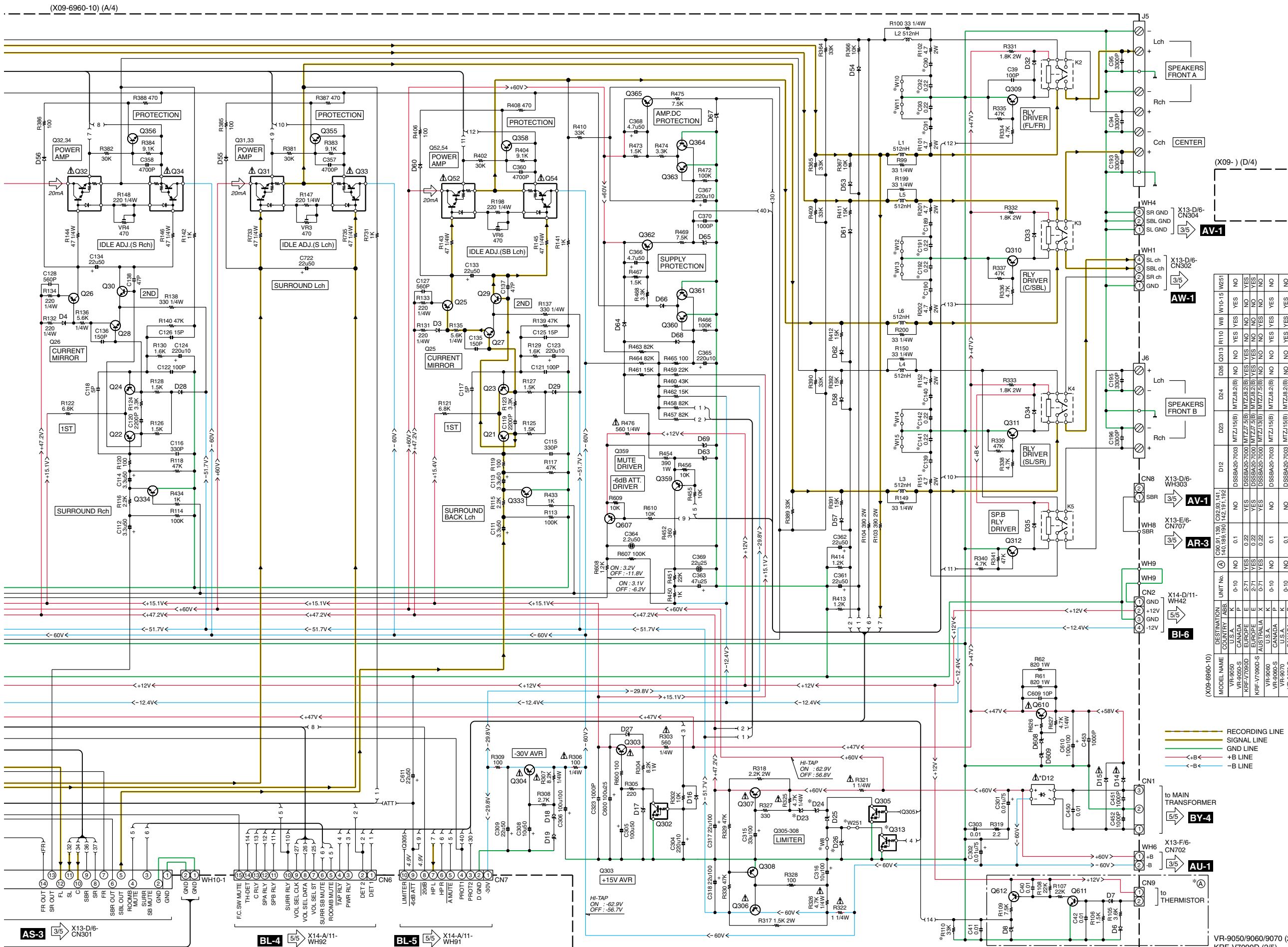


**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

KRF-V7090D/VR-9050/9060/9070





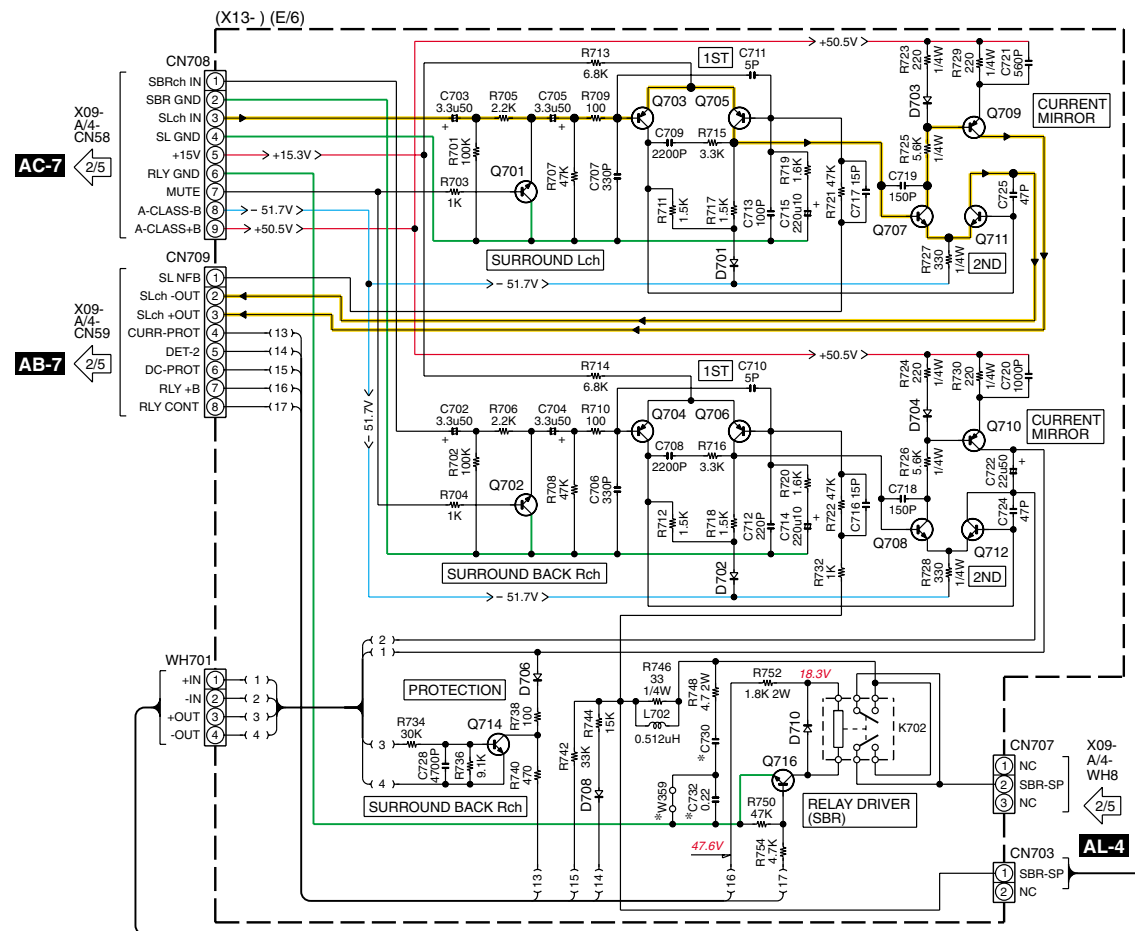
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.

X09-9980-10)	MODEL NAME	COUNTRY	DESTINATION	UNIT No.	③	Q90 91 139	Q92 93 141	Q94 95 152	Q96 97 163	Q98 99 174	Q100 101 185	Q102 103 196	Q104 105 207	Q106 107 218	Q108 109 229	Q110 111 240	Q112 113 251	Q114 115 262	Q116 117 273	Q118 119 284	Q120 121 295	Q122 123 306	Q124 125 317	Q126 127 328	Q128 129 339	Q130 131 350	Q132 133 361	Q134 135 372	Q136 137 383	Q138 139 394	Q140 141 405	Q142 143 416	Q144 145 427	Q146 147 438	Q148 149 449	Q150 151 460	Q152 153 471	Q154 155 482	Q156 157 493	Q158 159 504	Q160 161 515	Q162 163 526	Q164 165 537	Q166 167 548	Q168 169 559	Q170 171 570	Q172 173 581	Q174 175 592	Q176 177 603	Q178 179 614	Q180 181 625	Q182 183 636	Q184 185 647	Q186 187 658	Q188 189 669	Q190 191 680	Q192 193 691	Q194 195 702	Q196 197 713	Q198 199 724	Q200 201 735	Q202 203 746	Q204 205 757	Q206 207 768	Q208 209 779	Q210 211 790	Q212 213 801	Q214 215 812	Q216 217 823	Q218 219 834	Q220 221 845	Q222 223 856	Q224 225 867	Q226 227 878	Q228 229 889	Q230 231 900	Q232 233 911	Q234 235 922	Q236 237 933	Q238 239 944	Q240 241 955	Q242 243 966	Q244 245 977	Q246 247 988	Q248 249 999	Q250 251 1010	Q252 253 1021	Q254 255 1032	Q256 257 1043	Q258 259 1054	Q260 261 1065	Q262 263 1076	Q264 265 1087	Q266 267 1098	Q268 269 1109	Q270 271 1120	Q272 273 1131	Q274 275 1142	Q276 277 1153	Q278 279 1164	Q280 281 1175	Q282 283 1186	Q284 285 1197	Q286 287 1208	Q288 289 1219	Q290 291 1230	Q292 293 1241	Q294 295 1252	Q296 297 1263	Q298 299 1274	Q300 301 1285	Q302 303 1296	Q304 305 1307	Q306 307 1318	Q308 309 1329	Q310 311 1340	Q312 313 1351	Q314 315 1362	Q316 317 1373	Q318 319 1384	Q320 321 1395	Q322 323 1406	Q324 325 1417	Q326 327 1428	Q328 329 1439	Q330 331 1450	Q332 333 1461	Q334 335 1472	Q336 337 1483	Q338 339 1494	Q340 341 1505	Q342 343 1516	Q344 345 1527	Q346 347 1538	Q348 349 1549	Q350 351 1560	Q352 353 1571	Q354 355 1582	Q356 357 1593	Q358 359 1604	Q360 361 1615	Q362 363 1626	Q364 365 1637	Q366 367 1648	Q368 369 1659	Q370 371 1670	Q372 373 1681	Q374 375 1692	Q376 377 1703	Q378 379 1714	Q380 381 1725	Q382 383 1736	Q384 385 1747	Q386 387 1758	Q388 389 1769	Q390 391 1780	Q392 393 1791	Q394 395 1802	Q396 397 1813	Q398 399 1824	Q400 401 1835	Q402 403 1846	Q404 405 1857	Q406 407 1868	Q408 409 1879	Q410 411 1890	Q412 413 1901	Q414 415 1912	Q416 417 1923	Q418 419 1934	Q420 421 1945	Q422 423 1956	Q424 425 1967	Q426 427 1978	Q428 429 1989	Q430 431 2000	Q432 433 2011	Q434 435 2022	Q436 437 2033	Q438 439 2044	Q440 441 2055	Q442 443 2066	Q444 445 2077	Q446 447 2088	Q448 449 2099	Q450 451 2110	Q452 453 2121	Q454 455 2132	Q456 457 2143	Q458 459 2154	Q460 461 2165	Q462 463 2176	Q464 465 2187	Q466 467 2198	Q468 469 2209	Q470 471 2220	Q472 473 2231	Q474 475 2242	Q476 477 2253	Q478 479 2264	Q480 481 2275	Q482 483 2286	Q484 485 2297	Q486 487 2308	Q488 489 2319	Q490 491 2330	Q492 493 2341	Q494 495 2352	Q496 497 2363	Q498 499 2374	Q500 501 2385	Q502 503 2396	Q504 505 2407	Q506 507 2418	Q508 509 2429	Q510 511 2440	Q512 513 2451	Q514 515 2462	Q516 517 2473	Q518 519 2484	Q520 521 2495	Q522 523 2506	Q524 525 2517	Q526 527 2528	Q528 529 2539	Q530 531 2550	Q532 533 2561	Q534 535 2572	Q536 537 2583	Q538 539 2594	Q540 541 2605	Q542 543 2616	Q544 545 2627	Q546 547 2638	Q548 549 2649	Q550 551 2660	Q552 553 2671	Q554 555 2682	Q556 557 2693	Q558 559 2704	Q560 561 2715	Q562 563 2726	Q564 565 2737	Q566 567 2748	Q568 569 2759	Q570 571 2770	Q572 573 2781	Q574 575 2792	Q576 577 2803	Q578 579 2814	Q580 581 2825	Q582 583 2836	Q584 585 2847	Q586 587 2858	Q588 589 2869	Q590 591 2880	Q592 593 2891	Q594 595 2902	Q596 597 2913	Q598 599 2924	Q600 601 2935	Q602 603 2946	Q604 605 2957	Q606 607 2968	Q608 609 2979	Q610 611 2990	Q612 613 3001	Q614 615 3012	Q616 617 3023	Q618 619 3034	Q620 621 3045	Q622 623 3056	Q624 625 3067	Q626 627 3078	Q628 629 3089	Q630 631 3100	Q632 633 3111	Q634 635 3122	Q636 637 3133	Q638 639 3144	Q640 641 3155	Q642 643 3166	Q644 645 3177	Q646 647 3188	Q648 649 3199	Q650 651 3210	Q652 653 3221	Q654 655 3232	Q656 657 3243	Q658 659 3254	Q660 661 3265	Q662 663 3276	Q664 665 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6939	Q1330 1331 6950	Q1332 1333 6961	Q1334 1335 6972	Q1336 1337 6983	Q1338 1339 6994	Q1340 1341 7005	Q1342 1343 7016	Q1344 1345 7027	Q1346 1347 7038	Q1348 1349 7049	Q1350 1351 7060	Q1352 1353 7071	Q1354 1355 7082	Q1356 1357 7093	Q1358 1359 7104	Q1360 1361 7115	Q1362 1363 7126	Q1364 1365 7137	Q1366 1367 7148	Q1368 1369 7159	Q1370 1371 7170	Q1372 1373 7181	Q1374 1375 7192	Q1376
		VR-9050	P	U.S.A.	K	NO	0.1	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES</																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														




# KRF-V7090D/VR-9050/9060/9070



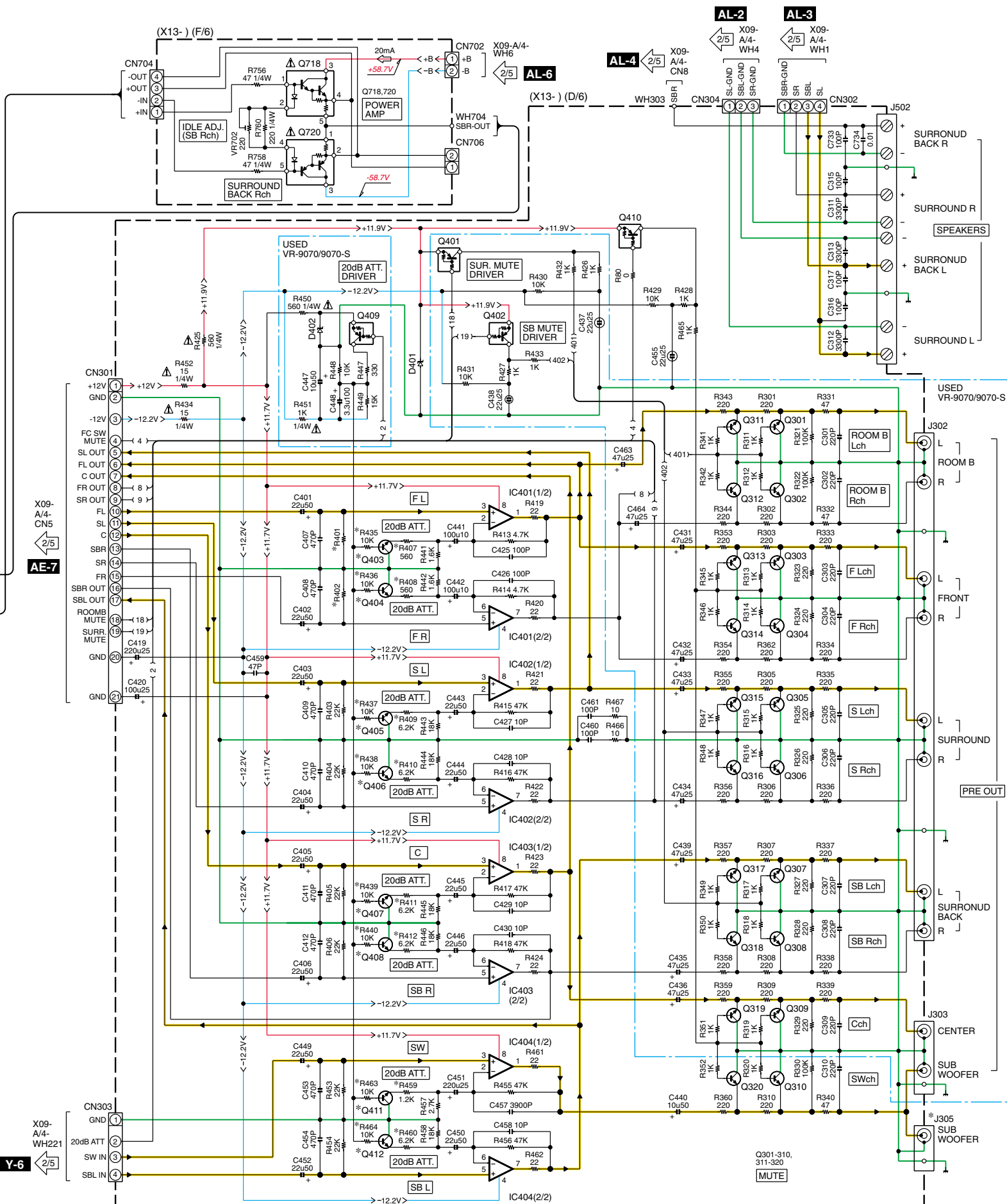
(X13-7960-10)										
MODEL NAME	DESTINATION		UNIT NO.	C730	C732	J305	Q403-408, 411,412	R407-412,435-440, 459,460,463,464	R401, 402	W350
	COUNTRY	ABB.								
VR-9050	U.S.A.	K								
VR-9050-S	CANADA	P	0-10	0.1	NO	YES	NO	NO	100K	YES
KRF-V7090D	EUROPE	E	2-71	0.22	YES	YES	NO	NO	100K	NO
KRF-V7090-S	EUROPE	E	2-71	0.22	YES	YES	NO	NO	100K	NO
	AUSTRALIA	X								
VR-9060	U.S.A.	K								
VR-9060-S	CANADA	P	0-11	0.1	NO	YES	NO	NO	100K	YES
VR-9070	U.S.A.	K								
VR-9070-S	CANADA	P	0-12	0.1	NO	NO	YES	YES	18K	YES

IC401-404	:	RC45801P
Q301-320,403-408,411	:	
412,701,702	:	25C2878(B)-F
Q401,402,410	:	DTA124EUA
Q409	:	KRA103M
Q703-706	:	25A992(F)-S
Q707,708,711,712	:	25C2631(R,S)
Q709,710	:	25A1123(R,S)
Q714	:	25C1845(F)-S
Q716	:	KTC3200
Q718	:	TRAIT3KNNF
Q720	:	TRAIT3KPNF
D401	:	MTZJ3.9(B)
D402	:	MTZJ5.1(B)
D701-704,708,710	:	1S5133
D706	:	1S5244

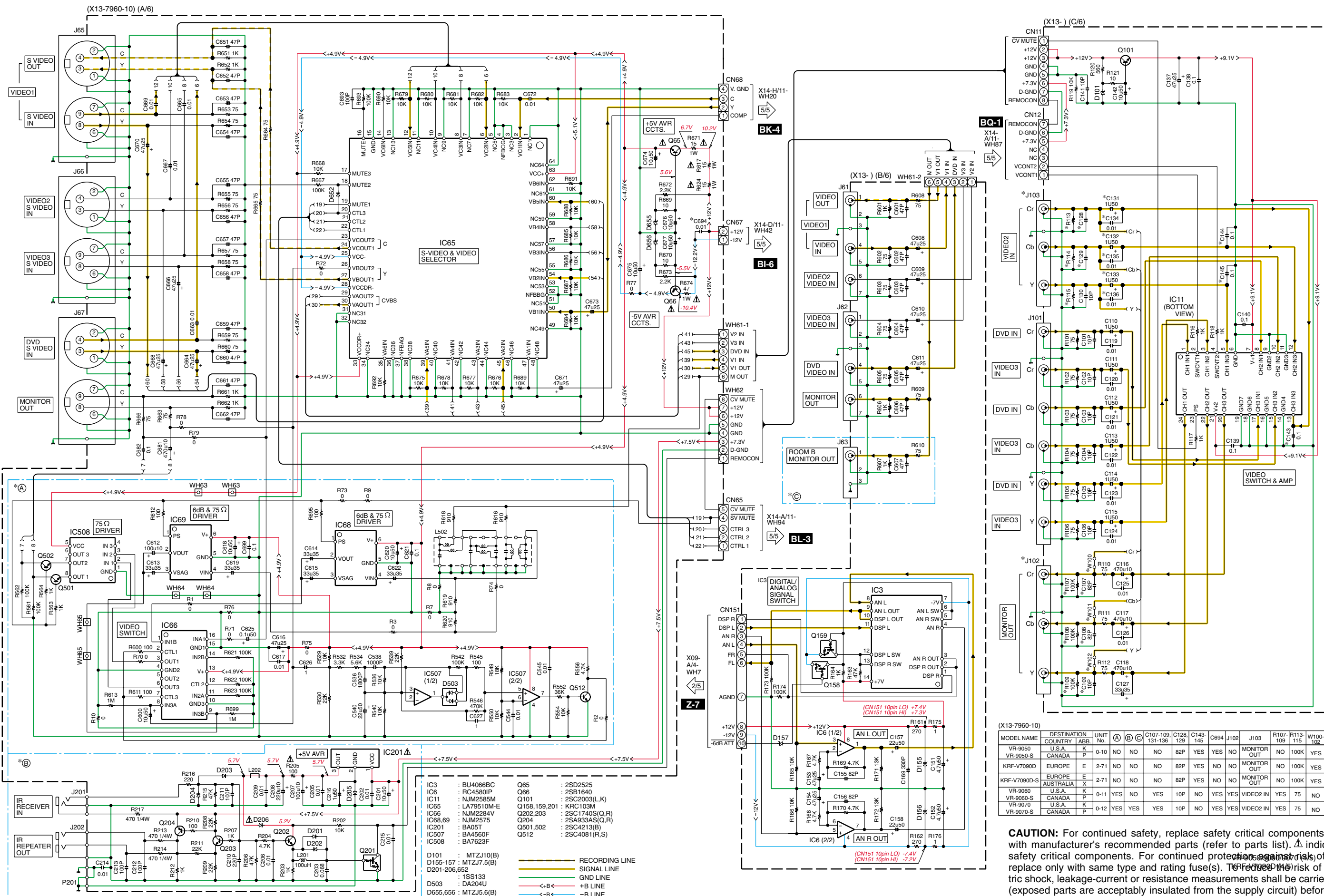
 SIGNAL LINE  
 GND LINE  
 +B LINE  
 -B LINE

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

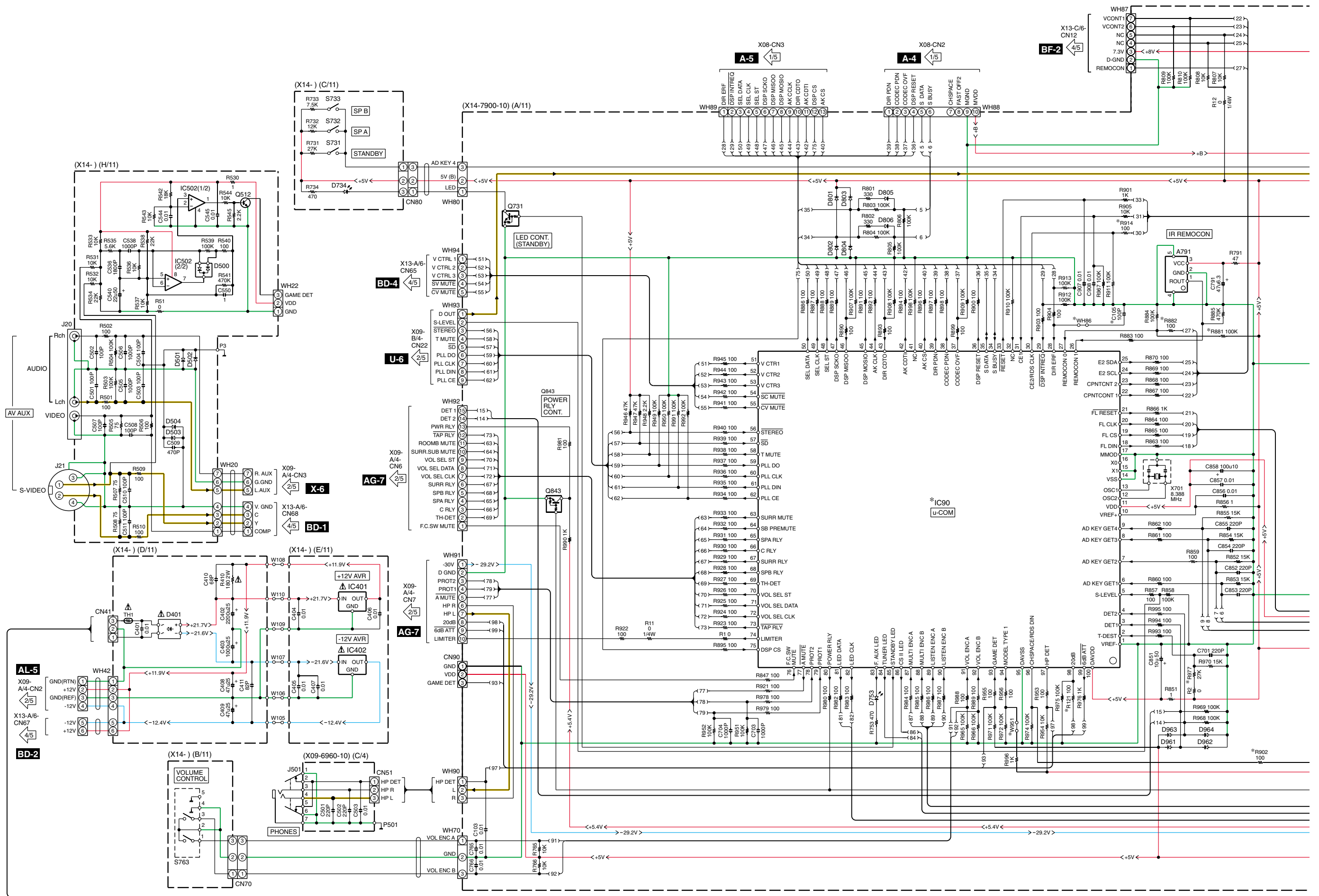
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.



VR-9050/9060/9070 (3/5)  
KRF-V7090D (3/5)



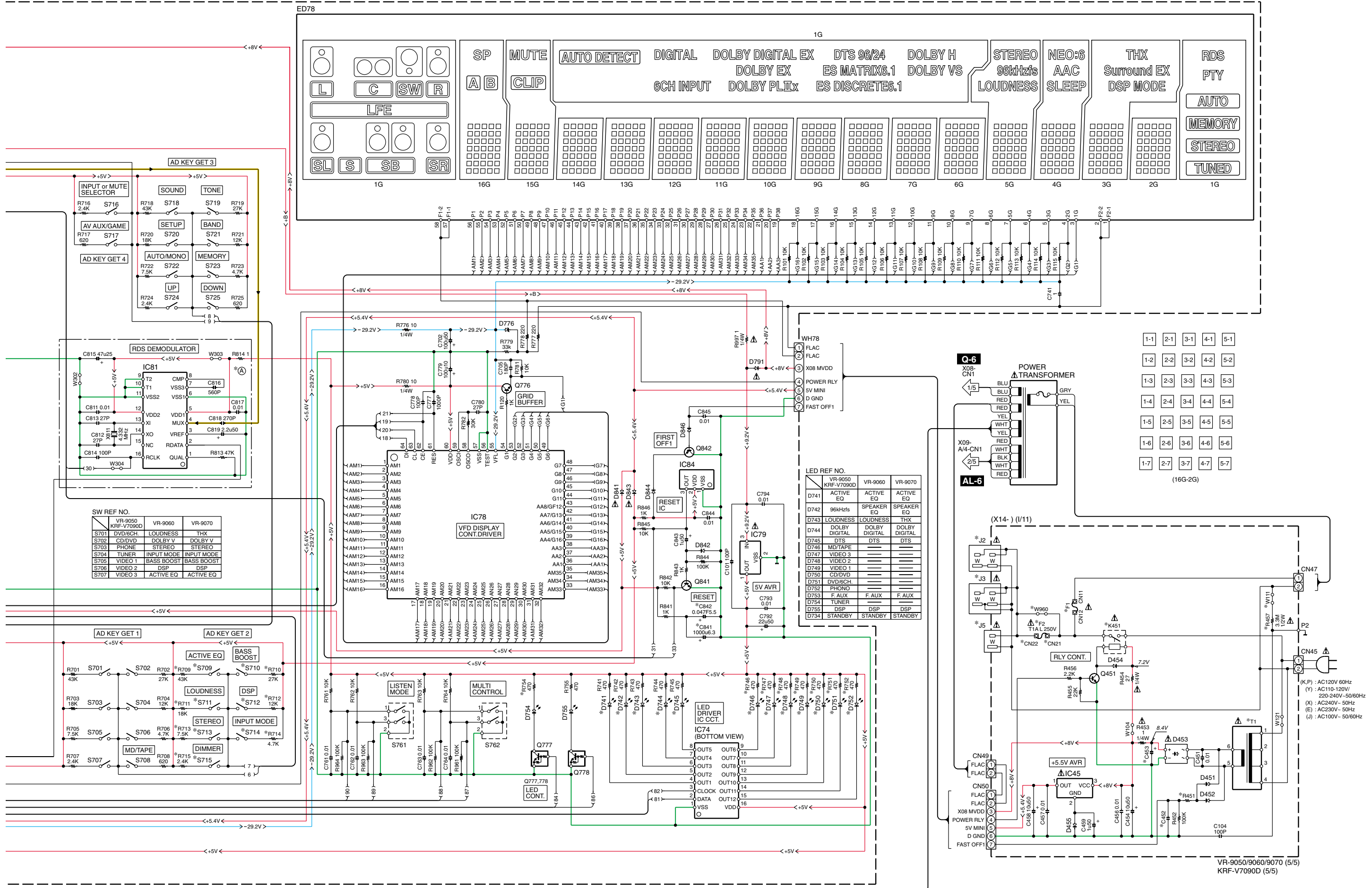
The DC voltage is an actual reading measured with a high impedance type voltmeter with no signal input. The measurement value may vary depending on the measuring instruments used or on the product.





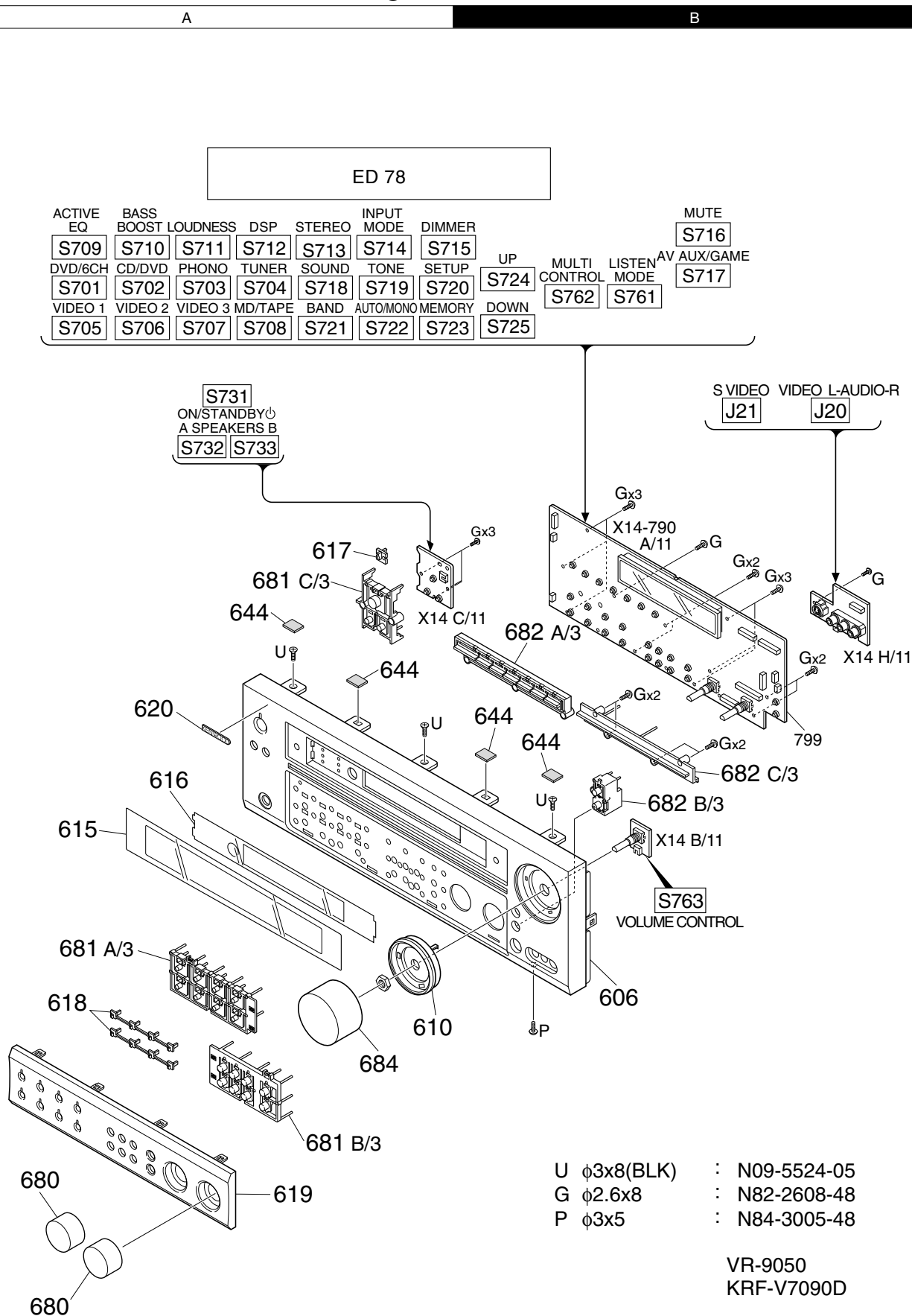
## KRF-V7090D/VR-9050/9060/9070

(X14-7900-10) (A/11)

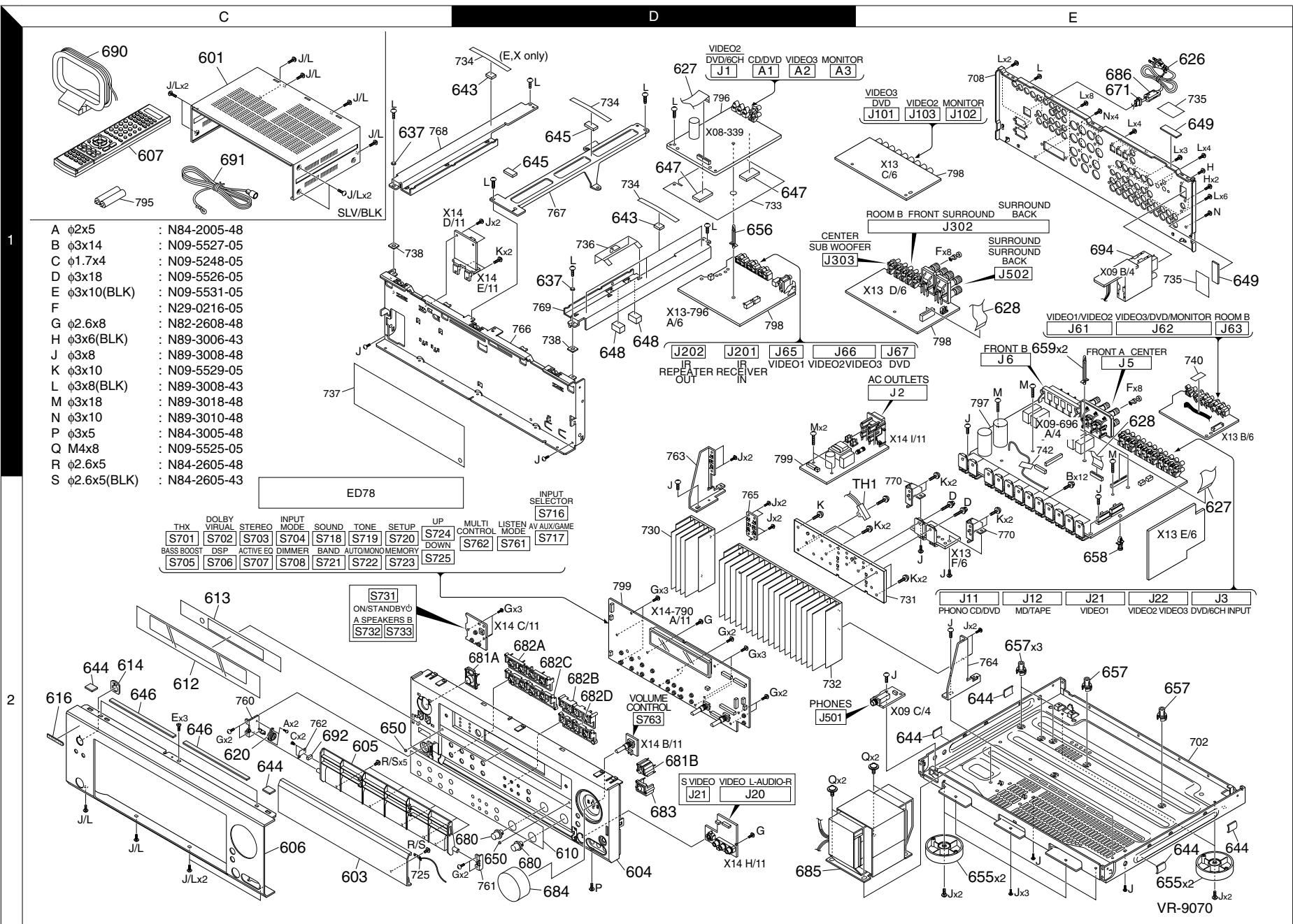




## EXPLODED VIEW







\* New Parts

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①

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
<b>VR-9070</b>						
601	1C	*	A01-3950-01	METALLIC CABINET	K8P8	
601	1C	*	A01-3951-01	METALLIC CABINET	K9P9	
603	2C	*	A21-5484-12	DRESSING PANEL	K8P8	
603	2C	*	A21-5485-12	DRESSING PANEL	K9P9	
604	2D	*	A22-1906-01	SUB PANEL	K8P8	
604	2D	*	A22-1907-01	SUB PANEL	K9P9	
605	2C	*	A52-1021-01	DOOR	K8P8	
605	2C	*	A52-1022-01	DOOR	K9P9	
606	2C	*	A60-2421-01	PANEL	K8P8	
606	2C	*	A60-2422-01	PANEL	K9P9	
607	1C	*	A70-1675-05	REMOTE CONTROLLER ASSY		
-			B60-5553-00	INSTRUCTION MANUAL (EN)		
-			B60-5554-00	INSTRUCTION MANUAL (FR)	P8P9	
610	2D	*	B03-3949-02	DRESSING PLATE	K8P8	
610	2D	*	B03-3950-02	DRESSING PLATE	K9P9	
612	2C	*	B10-5563-02	FRONT GLASS		
613	2C	*	B11-1612-03	COLOR FILTER		
614	2C	*	B12-0490-04	INDICATOR ASSY	K8P8	
614	2C	*	B12-0492-04	INDICATOR ASSY	K9P9	
616	2C	*	B43-0336-04	BADGE		
620	2C		D39-0321-05	DAMPER		
△ 626	1E		E30-7329-05	AC POWER CORD		
627	1D,2E		E35-3216-05	FLAT CABLE		
628	1E	*	E35-3746-05	FLAT CABLE		
637	1C,1D		F29-0134-04	INSULATING WASHER		
643	1D		G11-2416-04	CUSHION		
644	2C,2E		G11-2885-04	CUSHION		
645	1D		G11-2886-04	CUSHION		
646	2C		G11-2887-04	CUSHION		
647	1D		G11-2916-04	CUSHION		
648	1D		G11-2958-04	CUSHION		
649	1E		G11-2959-04	CUSHION		
650	2C,2D	*	G11-2968-04	CUSHION	K8P8	
650	2C,2D	*	G11-2969-04	CUSHION	K9P9	
-			J61-0307-05	WIRE BAND		
655	2E		J02-1467-03	FOOT (D=60,H=21.5)		
656	1D		J19-5915-05	UNIT HOLDER		
657	2E		J19-6002-04	UNIT HOLDER		
658	2E		J19-6069-05	UNIT HOLDER		
△ 659	1E	*	J19-6312-05	UNIT HOLDER		
671	1E		J42-0083-05	POWER CORD BUSHING		
680	2D	*	K29-8432-04	KNOB	K8P8	
680	2D	*	K29-8433-04	KNOB	K9P9	
681	2D	*	K29-8434-13	KNOB	K9P9	
681	2D	*	K29-8446-13	KNOB	K8P8	
682	2D	*	K29-8435-01	KNOB	K8P8	
682	2D	*	K29-8436-01	KNOB	K9P9	
683	2D	*	K29-8437-04	KNOB ASSY	K8P8	
683	2D	*	K29-8439-04	KNOB ASSY	K9P9	
684	2D	*	K29-8444-04	KNOB	K8P8	

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②

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
684	2D	*	K29-8445-04	KNOB	K9P9	
△ 685	2D		L07-3285-15	POWER TRANSFORMER		
A		*	N84-2005-48	PAN HEAD TAPTITE SCREW		
G		*	N82-2608-48	BINDING HEAD TAPTITE SCREW		
J		*	N89-3008-48	BINDING HEAD TAPTITE SCREW		
M		*	N89-3018-48	BINDING HEAD TAPTITE SCREW		
N		*	N89-3010-48	BINDING HEAD TAPTITE SCREW		
P		*	N84-3005-48	PAN HEAD TAPTITE SCREW	K9P9	
R		*	N84-2605-48	PAN HEAD TAPTITE SCREW		
690	1C		T90-0893-05	LOOP ANTENNA		
691	1C		T90-0905-05	LEAD WIRE ANTENNA		
692	2C		T99-0672-05	MAGNET		
Q11 ,12		*	TRAIT3KNNF	TRANSISTOR		
Q13 ,14		*	TRAIT3KPNF	TRANSISTOR		
Q31 ,32		*	TRAIT3KNNF	TRANSISTOR		
Q33 ,34		*	TRAIT3KPNF	TRANSISTOR		
Q51 ,52		*	TRAIT3KNNF	TRANSISTOR		
Q53 ,54		*	TRAIT3KPNF	TRANSISTOR		
Q718		*	TRAIT3KNNF	TRANSISTOR		
Q720		*	TRAIT3KPNF	TRANSISTOR		
694	1E		W02-2974-15	TUNER ASSY		
<b>VR-9060</b>						
601	1C		A01-3950-01	METALLIC CABINET	K6P6	
601	1C		A01-3951-01	METALLIC CABINET	K7P7	
603	2C	*	A21-5486-02	DRESSING PANEL	K6P6	
603	2C	*	A21-5487-02	DRESSING PANEL	K7P7	
604	2D	*	A22-1906-01	SUB PANEL	K6P6	
604	2D		A22-1907-01	SUB PANEL	K7P7	
605	2C		A52-1021-01	DOOR	K6P6	
605	2C		A52-1022-01	DOOR	K7P7	
606	2C	*	A60-2428-01	PANEL	K6P6	
606	2C	*	A60-2429-01	PANEL	K7P7	
607	1C	*	A70-1671-05	REMOTE CONTROLLER ASSY		
-			B60-5551-00	INSTRUCTION MANUAL (EN)		
-			B60-5552-00	INSTRUCTION MANUAL (FR)		
610	2D	*	B03-3953-02	DRESSING PLATE	P6P7	
610	2D	*	B03-3954-02	DRESSING PLATE	K6P6	
612	2C	*	B10-5563-02	FRONT GLASS	K7P7	
613	2C	*	B11-1616-03	COLOR FILTER		
614	2C	*	B12-0490-04	INDICATOR ASSY	K6P6	
614	2C	*	B12-0492-04	INDICATOR ASSY	K7P7	
616	2C	*	B43-0336-04	BADGE		
620	2C		D39-0321-05	DAMPER		
△ 626	1E		E30-7329-05	AC POWER CORD		
627	1D,2E		E35-3216-05	FLAT CABLE		
628	2E		E35-3746-05	FLAT CABLE		
637	1C,1D		F29-0134-04	INSULATING WASHER		
643	1D		G11-2416-04	CUSHION		
644	2C,2E		G11-2885-04	CUSHION		

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## PARTS LIST

KRF-V7090D/VR-9050/9060/9070

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③

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
645	1D		G11-2886-04	CUSHION		
646	2C		G11-2887-04	CUSHION		
647	1D		G11-2916-04	CUSHION		
648	1D		G11-2958-04	CUSHION		
649	1E		G11-2959-04	CUSHION		
650	2C,2D		G11-2968-04	CUSHION	K6P6	
650	2C,2D		G11-2969-04	CUSHION	K7P7	
-			J61-0307-05	WIRE BAND		
655	2E		J02-1467-03	FOOT (D=60,H=21.5)		
656	1D		J19-5915-05	UNIT HOLDER		
657	2E		J19-6002-04	UNIT HOLDER		
658	2E		J19-6069-05	UNIT HOLDER		
659	1E		J19-6312-05	UNIT HOLDER		
671	1E		J42-0083-05	POWER CORD BUSHING		
680	2D		K29-8432-04	KNOB	K6P6	
680	2D		K29-8433-04	KNOB	K7P7	
681	2D		K29-8434-13	KNOB	K7P7	
681	2D		K29-8446-13	KNOB	K6P6	
682	2D		K29-8435-01	KNOB	K6P6	
682	2D		K29-8436-01	KNOB	K7P7	
683	2D		K29-8437-04	KNOB ASSY	K6P6	
683	2D		K29-8439-04	KNOB ASSY	K7P7	
684	2D		K29-8444-04	KNOB	K6P6	
684	2D		K29-8445-04	KNOB	K7P7	
685	2D		L07-3285-15	POWER TRANSFORMER		
A			N84-2005-48	PAN HEAD TAPTITE SCREW		
G			N82-2608-48	BINDING HEAD TAPTITE SCREW		
J			N89-3008-48	BINDING HEAD TAPTITE SCREW		
M			N89-3018-48	BINDING HEAD TAPTITE SCREW		
N			N89-3010-48	BINDING HEAD TAPTITE SCREW		
P			N84-3005-48	PAN HEAD TAPTITE SCREW		
R			N84-2605-48	PAN HEAD TAPTITE SCREW	K7P7	
690	1C		T90-0893-05	LOOP ANTENNA		
691	1C		T90-0905-05	LEAD WIRE ANTENNA		
692	2C		T99-0672-05	MAGNET		
Q11 ,12			TRAIT3KNNF	TRANSISTOR		
Q13 ,14			TRAIT3KPNF	TRANSISTOR		
Q31 ,32			TRAIT3KNNF	TRANSISTOR		
Q33 ,34			TRAIT3KPNF	TRANSISTOR		
Q51 ,52			TRAIT3KNNF	TRANSISTOR		
Q53 ,54			TRAIT3KPNF	TRANSISTOR		
Q718			TRAIT3KNNF	TRANSISTOR		
Q720			TRAIT3KPNF	TRANSISTOR		
694	1E		W02-2974-15	TUNER ASSY		
<b>KRF-V7090D/VR-9050</b>						
601	1C		A01-3948-01	METALLIC CABINET	K4P4E4	
601	1C	*	A01-3949-01	METALLIC CABINET	E5	
601	1C	*	A01-3949-01	METALLIC CABINET	K5P5X5	
606	3B	*	A60-2425-01	PANEL	K4P4E4	
606	3B	*	A60-2426-01	PANEL	E5	
606	3B	*	A60-2426-01	PANEL	K5P5X5	

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④

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
607	1C	*	A70-1673-05	REMOTE CONTROLLER ASSY	K4K5P4	
607	1C	*	A70-1673-05	REMOTE CONTROLLER ASSY	P5	
607	1C	*	A70-1674-05	REMOTE CONTROLLER ASSY	X5E4E5	
-			B60-5534-00	INSTRUCTION MANUAL (EN)	K4K5P4	
-			B60-5534-00	INSTRUCTION MANUAL (EN)	P5	
-			B60-5535-00	INSTRUCTION MANUAL (FR)	P4P5	
-			B60-5536-00	INSTRUCTION MANUAL (6-LN)	E4E5	
-			B60-5537-00	INSTRUCTION MANUAL (EN)	X5	
610	3A		B07-2606-03	ESCUTCHEON	K4P4E4	
610	3A		B07-2607-03	ESCUTCHEON	E5	
610	3A		B07-2607-03	ESCUTCHEON	K5P5X5	
615	2A	*	B10-5571-02	FRONT GLASS	K4K5P4	
615	2A	*	B10-5571-02	FRONT GLASS	P5	
615	2A	*	B10-5572-02	FRONT GLASS	X5E4E5	
616	2A	*	B11-1618-03	COLOR FILTER		
617	2A		B12-0484-14	INDICATOR		
618	3A		B12-0486-03	INDICATOR		
619	3A	*	B07-2720-01	ESCUTCHEON	K4P4E4	
619	3A	*	B07-2721-01	ESCUTCHEON	E5	
619	3A	*	B07-2721-01	ESCUTCHEON	K5P5X5	
620	2A		B43-0336-04	BADGE		
626	1E		E30-7329-05	AC POWER CORD	K4K5P4	
626	1E		E30-7329-05	AC POWER CORD	P5	
626	1E		E30-7330-05	AC POWER CORD	X5	
626	1E		E30-7346-05	AC POWER CORD	E4E5	
627	1D,2E		E35-3216-05	FLAT CABLE		
628	1E		E35-3746-05	FLAT CABLE		
637	1C,1D		F29-0134-04	INSULATING WASHER		
643	1D		G11-2416-04	CUSHION		
644	2A,2E		G11-2885-04	CUSHION		
645	1D		G11-2886-04	CUSHION		
647	1D		G11-2916-04	CUSHION		
648	1D		G11-2958-04	CUSHION		
649	1E		G11-2959-04	CUSHION		
-			J61-0307-05	WIRE BAND		
655	2E		J02-1532-03	FOOT		
656	1D		J19-5915-05	UNIT HOLDER		
657	2E		J19-6002-04	UNIT HOLDER		
658	2E		J19-6069-05	UNIT HOLDER		
659	1E		J19-6312-05	UNIT HOLDER		
671	1E		J42-0083-05	POWER CORD BUSHING		
680	3A		K29-8352-14	KNOB	K4P4E4	
680	3A		K29-8353-04	KNOB	E5	
680	3A		K29-8353-04	KNOB	K5P5X5	
681	2A,3A		K29-8364-11	KNOB	K4P4E4	
681	2A,3A		K29-8365-01	KNOB	E5	
681	2A,3A		K29-8365-01	KNOB	K5P5X5	
682	2B		K29-8358-13	KNOB ASSY	K4P4E4	
682	2B		K29-8362-03	KNOB ASSY	E5	
682	2B		K29-8362-03	KNOB ASSY	K5P5X5	
684	3A		K29-8103-04	KNOB	K4P4E4	

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## PARTS LIST

KRF-V7090D/VR-9050/9060/9070



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5

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
684	3A		K29-8104-04	KNOB	E5	
684	3A		K29-8104-04	KNOB	K5P5X5	
△ 685	2D		L07-3285-15	POWER TRANSFORMER	K4K5P4	
△ 685	2D		L07-3285-15	POWER TRANSFORMER	P5	
△ 685	2D		L07-3286-15	POWER TRANSFORMER	E4E5	
△ 685	2D		L07-3287-15	POWER TRANSFORMER	X5	
685	2D		L92-0579-05	FERRITE CORE	E4E5	
G			N82-2608-48	BINDING HEAD TAPTITE SCREW		
J			N89-3008-48	BINDING HEAD TAPTITE SCREW		
M			N89-3018-48	BINDING HEAD TAPTITE SCREW		
N			N89-3010-48	BINDING HEAD TAPTITE SCREW		
P			N84-3005-48	PAN HEAD TAPTITE SCREW		
690	1C		T90-0893-05	LOOP ANTENNA		
691	1C		T90-0855-05	LEAD WIRE ANTENNA	X5E4E5	
691	1C		T90-0905-05	LEAD WIRE ANTENNA	K4K5P4	
691	1C		T90-0905-05	LEAD WIRE ANTENNA	P5	
△ Q11 ,12			TRAIT3KNNF	TRANSISTOR		
△ Q13 ,14			TRAIT3KPNF	TRANSISTOR		
△ Q31 ,32			TRAIT3KNNF	TRANSISTOR		
△ Q33 ,34			TRAIT3KPNF	TRANSISTOR		
△ Q51 ,52			TRAIT3KNNF	TRANSISTOR		
△ Q53 ,54			TRAIT3KPNF	TRANSISTOR		
△ Q718			TRAIT3KNNF	TRANSISTOR		
△ Q720			TRAIT3KPNF	TRANSISTOR		
TH1	2E		DP40203SG270	THERMISTOR	X5E4E5	
694	1E		W02-2974-15	TUNER ASSY	K4K5P4	
694	1E		W02-2974-15	TUNER ASSY	P5	
694	1E		W02-2976-05	TUNER ASSY	X5E4E5	
<b>SURROUND (X08-3390-10)</b>						
C1 ,2			CK73GB1H472K	CHIP C	4700PF	K
C3 ,4			CC73GCH1H220J	CHIP C	22PF	J
C5 ,6			CD04BJ1E470M	ELECTRO	47UF	25WV
C7			CD04BJ1H100M	ELECTRO	10UF	50WV
C8 ,9			CC73GCH1H221J	CHIP C	220PF	J
C11			CK73GB1H104K	CHIP C	0.10UF	K
C12			CK73GB1A474K	CHIP C	0.47UF	K
C13 ,14			CK73GB1H104K	CHIP C	0.10UF	K
C15			CK73GB1H102K	CHIP C	1000PF	K
C16			CK73GB1H103K	CHIP C	0.010UF	K
C41			CK73GB1H104K	CHIP C	0.10UF	K
C42			CK73GB1H103K	CHIP C	0.010UF	K
C43			CD04BJ1H2R2M	ELECTRO	2.2UF	50WV
C44 ,45			CK73GB1H104K	CHIP C	0.10UF	K
C46			CD04BJ1E470M	ELECTRO	47UF	25WV
C47 ,48			CD04BJ1H4R7M	ELECTRO	4.7UF	50WV
C49			CD04BJ1H100M	ELECTRO	10UF	50WV
C50 ,51			CK73GB1H103K	CHIP C	0.010UF	K
C57 ,58			CC73GSL1H471J	CHIP C	470PF	J
C61 ,62			CC73GCH1H080D	CHIP C	8.0PF	D
C63			CK73GB1H102K	CHIP C	1000PF	K
C64			CK73GB1C563K	CHIP C	0.056UF	K
C65			CD04BJ1E470M	ELECTRO	47UF	25WV
C66			CC73GCH1H220J	CHIP C	22PF	J
C79			CK73GB1H103K	CHIP C	0.010UF	K

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C80			CK73FB1E104K	CHIP C	0.10UF	K
C81			CK73GB1H104K	CHIP C	0.10UF	K
C82			CD04BJ1H100M	ELECTRO	10UF	50WV
C83 ,84			CK73GB1H104K	CHIP C	0.10UF	K
C85			CD04BJ1H100M	ELECTRO	10UF	50WV
C88			CD04BJ1H100M	ELECTRO	10UF	50WV
C89			CK73FB1E104K	CHIP C	0.10UF	K
C90			CK73GB1H104K	CHIP C	0.10UF	K
C91			CD04BJ1H100M	ELECTRO	10UF	50WV
C92			CK73FB1E104K	CHIP C	0.10UF	K
C93			CK73GB1H104K	CHIP C	0.10UF	K
C94			CD04BJ1H100M	ELECTRO	10UF	50WV
C95			CK73FB1C105K	CHIP C	1.0UF	K
C96			CK73GB1H104K	CHIP C	0.10UF	K
C97			CD04BJ1A101M	ELECTRO	100UF	10WV
C98			CK73FB1E104K	CHIP C	0.10UF	K
C99			CK73GB1H103K	CHIP C	0.010UF	K
C100			CD04BJ1C472M	ELECTRO	4700UF	16WV
C101,102			CD04BJ1H100M	ELECTRO	10UF	50WV
C103-106			CK73GB1H182K	CHIP C	1800PF	K
C109			CC73GCH1H101J	CHIP C	100PF	J
C110			CK73GB1H103K	CHIP C	0.010UF	K
C121,122			CD04BJ1H100M	ELECTRO	10UF	50WV
C123,124			CK73GB1H222K	CHIP C	2200PF	K
C125,126			CK73GB1H821K	CHIP C	820PF	K
C129			CC73GCH1H101J	CHIP C	100PF	J
C130			CK73GB1H103K	CHIP C	0.010UF	K
C141,142			CD04BJ1H100M	ELECTRO	10UF	50WV
C143-146			CK73GB1H182K	CHIP C	1800PF	K
C149			CC73GCH1H101J	CHIP C	100PF	J
C150			CK73GB1H103K	CHIP C	0.010UF	K
C161,162			CD04BJ1H100M	ELECTRO	10UF	50WV
C163			CK73GB1H182K	CHIP C	1800PF	K
C164			CK73GB1H822K	CHIP C	8200PF	K
C165			CK73GB1H182K	CHIP C	1800PF	K
C166			CK73GB1H822K	CHIP C	8200PF	K
C169			CC73GCH1H101J	CHIP C	100PF	J
C170			CK73GB1H103K	CHIP C	0.010UF	K
C181,182			CC73GCH1H220J	CHIP C	22PF	J
C189			CC73GCH1H101J	CHIP C	100PF	J
C190			CK73GB1H103K	CHIP C	0.010UF	K
C191-196			CD04BJ1H4R7M	ELECTRO	4.7UF	50WV
C197			CK73GB1H102K	CHIP C	1000PF	K
C198			CC73GCH1H101J	CHIP C	100PF	J
C261,262			CD04BJ1H100M	ELECTRO	10UF	50WV
C263,264			CC73GCH1H220J	CHIP C	22PF	J
C265,266			CD04BJ1H4R7M	ELECTRO	4.7UF	50WV
C267			CC73GCH1H101J	CHIP C	100PF	J
C268			CK73GB1H103K	CHIP C	0.010UF	K
C501-528			CK73GB1H103K	CHIP C	0.010UF	K
C529			CD04BJ1H100M	ELECTRO	10UF	50WV
C530-543			CK73GB1H103K	CHIP C	0.010UF	K
C544,545			CK73GB1H104K	CHIP C	0.10UF	K
C546-553			CK73GB1H103K	CHIP C	0.010UF	K
C554			CK73GB1H104K	CHIP C	0.10UF	K

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## PARTS LIST

KRF-V7090D/VR-9050/9060/9070

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C555			CK73GB1H103K	CHIP C	0.010UF	K
C556-558			CK73GB1H102K	CHIP C	1000PF	K
C560			CK73GB1H103K	CHIP C	0.010UF	K
C561,562			CC73GCH1H101J	CHIP C	100PF	J
C563-565			CK73GB1H103K	CHIP C	0.010UF	K
C567-570			CK73GB1H103K	CHIP C	0.010UF	K
C571,572			CC73GCH1H150J	CHIP C	15PF	J
C573			CK73GB1H102K	CHIP C	1000PF	K
C574			CK73GB1H103K	CHIP C	0.010UF	K
C575			CC73GCH1H100D	CHIP C	10PF	D
C601			CC73GCH1H101J	CHIP C	100PF	J
C602			CK73GB1H681K	CHIP C	680PF	K
C603			CC73GCH1H101J	CHIP C	100PF	J
C604			CC73GCH1H100D	CHIP C	10PF	D
CN4			E41-1435-05	FLAT CABLE CONNECTOR		
J1		*	E63-1387-05	PIN JACK		
L1 ,2			L92-0510-05	CHIP FERRITE		
L3 -5			L92-0578-05	CHIP FERRITE		
X6			L77-2419-05	CRYSTAL RESONATOR(24.576MHZ, H		
X51			L77-2420-05	CRYSTAL RESONATOR(18.75MHZ, HC		
CP51-66			RK74GB1J220J	CHIP-COM	22	J 1/16W
CP71-75			RK74GB1J181J	CHIP-COM	180	J 1/16W
R1 ,2			RK73GB2A101J	CHIP R	100	J 1/10W
R3			RK73EB2E4R7J	CHIP R	4.7	J 1/4W
R4			RK73GB2A471J	CHIP R	470	J 1/10W
R5			RK73EB2E4R7J	CHIP R	4.7	J 1/4W
R6			RK73EB2E4R7J	CHIP R	4.7	J 1/4W
R7 ,8			RK73GB2A750J	CHIP R	75	J 1/10W
R11 ,12			RK73GB2A101J	CHIP R	100	J 1/10W
R21			RK73GB2A183J	CHIP R	18K	J 1/10W
R23			RK73GB2A330J	CHIP R	33	J 1/10W
R24 -26			RK73GB2A101J	CHIP R	100	J 1/10W
R27			RK73GB2A104J	CHIP R	100K	J 1/10W
R30 ,31			RK73GB2A101J	CHIP R	100	J 1/10W
R32			RK73GB2A102J	CHIP R	1.0K	J 1/10W
R33			RK73GB2A181J	CHIP R	180	J 1/10W
R41			RK73GB2A330J	CHIP R	33	J 1/10W
R42			RK73GB2A104J	CHIP R	100K	J 1/10W
R43 -47			RK73GB2A101J	CHIP R	100	J 1/10W
R48 ,49			RK73GB2A100J	CHIP R	10	J 1/10W
R50			RK73GB2A181J	CHIP R	180	J 1/10W
R51			RK73GB2A100J	CHIP R	10	J 1/10W
R52			RK73EB2E4R7J	CHIP R	4.7	J 1/4W
R55 ,56			RK73GB2A471J	CHIP R	470	J 1/10W
R61 ,62			RK73GB2A105J	CHIP R	1.0M	J 1/10W
R63			RK73GB2A221J	CHIP R	220	J 1/10W
R64			RK73FB2A2R2J	CHIP R	2.2	J 1/10W
R65			RK73GB2A330J	CHIP R	33	J 1/10W
R81			RK73EB2E2R2J	CHIP R	2.2	J 1/4W
R82 ,83			R92-1918-05	CHIP R	0.33	J 1/4W
R84			RS14KB3D680J	FL-PROOF RS	68	J 2W
R85			RS14KB3D560J	FL-PROOF RS	56	J 2W
R86			RS14KB3D3R3J	FL-PROOF RS	3.3	J 2W
R86			RS14KB3D3R3J	FL-PROOF RS	3.3	J 2W

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R86			RS14KB3D3R3J	FL-PROOF RS	3.3	J 2W
R86			RS14KB3D3R9J	FL-PROOF RS	3.9	J 2W
R87			RS14KB3D3R3J	FL-PROOF RS	3.3	J 2W
R88			RS14KB3D2R2J	FL-PROOF RS	2.2	J 2W
R89			RK73GB2A202J	CHIP R	2.0K	J 1/10W
R90 ,91			RK73GB2A103J	CHIP R	10K	J 1/10W
R92			RK73GB2A152J	CHIP R	1.5K	J 1/10W
R93			RK73GB2A102J	CHIP R	1.0K	J 1/10W
R94			RK73GB2A472J	CHIP R	4.7K	J 1/10W
R95			RK73GB2A473J	CHIP R	47K	J 1/10W
R96 ,97			RK73GB2A221J	CHIP R	220	J 1/10W
R98			R92-1918-05	CHIP R	0.33	J 1/4W
R101,102			RK73GB2A104J	CHIP R	100K	J 1/10W
R103,104			RK73GB2A222J	CHIP R	2.2K	J 1/10W
R105,106			RK73GB2A102J	CHIP R	1.0K	J 1/10W
R107,108			RK73GB2A103J	CHIP R	10K	J 1/10W
R109,110			RK73GB2A472J	CHIP R	4.7K	J 1/10W
R111,112			RK73GB2A221J	CHIP R	220	J 1/10W
R121,122			RK73GB2A104J	CHIP R	100K	J 1/10W
R123,124			RK73GB2A332J	CHIP R	3.3K	J 1/10W
R125,126			RK73GB2A911J	CHIP R	910	J 1/10W
R127,128			RK73GB2A272J	CHIP R	2.7K	J 1/10W
R129,130			RK73GB2A562J	CHIP R	5.6K	J 1/10W
R131,132			RK73GB2A221J	CHIP R	220	J 1/10W
R141,142			RK73GB2A104J	CHIP R	100K	J 1/10W
R143,144			RK73GB2A222J	CHIP R	2.2K	J 1/10W
R145,146			RK73GB2A102J	CHIP R	1.0K	J 1/10W
R147,148			RK73GB2A103J	CHIP R	10K	J 1/10W
R149,150			RK73GB2A472J	CHIP R	4.7K	J 1/10W
R151,152			RK73GB2A221J	CHIP R	220	J 1/10W
R161,162			RK73GB2A104J	CHIP R	100K	J 1/10W
R163			RK73GB2A222J	CHIP R	2.2K	J 1/10W
R164			RK73GB2A273J	CHIP R	27K	J 1/10W
R165			RK73GB2A102J	CHIP R	1.0K	J 1/10W
R166			RK73GB2A183J	CHIP R	18K	J 1/10W
R167,168			RK73GB2A103J	CHIP R	10K	J 1/10W
R169			RK73GB2A472J	CHIP R	4.7K	J 1/10W
R170			RK73GB2A912J	CHIP R	9.1K	J 1/10W
R171,172			RK73GB2A221J	CHIP R	220	J 1/10W
R181,182			RK73GB2A102J	CHIP R	1.0K	J 1/10W
R185-188			RK73GB2A562J	CHIP R	5.6K	J 1/10W
R189,190			RK73GB2A101J	CHIP R	100	J 1/10W
R201-208			RK73GB2A104J	CHIP R	100K	J 1/10W
R209-212			RK73GB2A472J	CHIP R	4.7K	J 1/10W
R213,214			RK73GB2A432J	CHIP R	4.3K	J 1/10W
R215,216			RK73GB2A562J	CHIP R	5.6K	J 1/10W
R217,218			RK73GB2A472J	CHIP R	4.7K	J 1/10W
R219,220			RK73GB2A562J	CHIP R	5.6K	J 1/10W
R261-264			RK73GB2A562J	CHIP R	5.6K	J 1/10W
R265,266			RK73GB2A101J	CHIP R	100	J 1/10W
R501,502			RK73GB2A330J	CHIP R	33	J 1/10W
R503-506			RK73GB2A104J	CHIP R	100K	J 1/10W
R507-509			RK73GB2A101J	CHIP R	100	J 1/10W
R510			RK73GB2A104J	CHIP R	100K	J 1/10W
R511			RK73GB2A330J	CHIP R	33	J 1/10W

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KRF-V7090D/VR-9050/9060/9070  
PARTS LIST

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
R512			RK73GB2A101J	CHIP R	100 J	1/10W
R513-515			RK73GB2A104J	CHIP R	100K J	1/10W
R516			RK73GB2A101J	CHIP R	100 J	1/10W
R517			RK73GB2A220J	CHIP R	22 J	1/10W
R518			RK73FB2A100J	CHIP R	10 J	1/10W
R521			RK73GB2A472J	CHIP R	4.7K J	1/10W
R523,524			RK73GB2A472J	CHIP R	4.7K J	1/10W
R525,526			RK73GB2A220J	CHIP R	22 J	1/10W
R527			RK73GB2A101J	CHIP R	100 J	1/10W
R528-530			RK73GB2A472J	CHIP R	4.7K J	1/10W
R532-534			RK73GB2A472J	CHIP R	4.7K J	1/10W
R536			RK73GB2A103J	CHIP R	10K J	1/10W
R537-540			RK73GB2A472J	CHIP R	4.7K J	1/10W
R541-548			RK73GB2A100J	CHIP R	10 J	1/10W
R549			RK73GB2A101J	CHIP R	100 J	1/10W
R550			RK73GB2A100J	CHIP R	10 J	1/10W
R551			RK73GB2A104J	CHIP R	100K J	1/10W
R552			RK73GB2A102J	CHIP R	1.0K J	1/10W
R553,554			RK73GB2A100J	CHIP R	10 J	1/10W
R560-567			RK73GB2A472J	CHIP R	4.7K J	1/10W
R571			RK73GB2A105J	CHIP R	1.0M J	1/10W
R572			RK73GB2A101J	CHIP R	100 J	1/10W
R573			RK73GB2A105J	CHIP R	1.0M J	1/10W
R574			RK73GB2A103J	CHIP R	10K J	1/10W
R581			RK73GB2A104J	CHIP R	100K J	1/10W
R601,602			RK73GB2A100J	CHIP R	10 J	1/10W
R603,604			RK73GB2A120J	CHIP R	12 J	1/10W
R901-904			RK73GB2A000JK	CHIP R	0 J	1/10W
R907,908			RK73GB2A000JK	CHIP R	0 J	1/10W
Δ D1			D2SBA207009F01	DIODE		
Δ D2 -4			MA111	DIODE		
D5			UDZS5.6B	ZENER DIODE		
D6 ,7			UDZS3.9B	ZENER DIODE		
Δ D8			1SR154-400	DIODE		
D9			UDZS3.9B	ZENER DIODE		
D10			UDZS5.1B	ZENER DIODE		
D11 ,12			DAN202U	DIODE		
D13 -16			MA111	DIODE		
Δ D17			1SR154-400	DIODE		
D41			DAP202U	DIODE		
D42			DAN202U	DIODE		
D51			MA111	DIODE		
IC1			AK4114VQ	MOS-IC		
IC2			AK4628-VQ	MOS-IC		
IC6			TC7WU04FU	MOS-IC		
IC10			NJM4565MD-ZB	ANALOGUE IC		
IC12			NJM4565MD-ZB	ANALOGUE IC		
IC14			NJM4565MD-ZB	ANALOGUE IC		
IC16			NJM4565MD-ZB	ANALOGUE IC		
IC18			NJM4565MD-ZB	ANALOGUE IC		
IC18			NJM5532MD	ANALOGUE IC		
IC19			NJM4565MD-ZB	ANALOGUE IC		
IC20			NUJ7311AM	MOS-IC		
Δ IC21,22			BA033T	ANALOGUE IC		
					45	6789

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Δ IC23			BA05T	ANALOGUE IC		
Δ IC24			XC6201P332PRN	ANALOGUE IC		
Δ IC26			SI-3010KM	ANALOGUE IC		
IC50		*	AD58T-AVR-1090	MOS-IC		
IC51-53			SN74LVC573APWR	MOS-IC		
IC54			SN74LVC245APWR	MOS-IC		
IC55			SN74LVC2G125T3	MOS-IC		
IC56			SN74LVC139APWR	MOS-IC		
IC57			SN74LVC1G08DC3	MOS-IC		
IC58			SN74LVC1G32DC3	MOS-IC		
IC59		*	A29L800TV7FKF0	ROM IC		
IC59		*	A29L800TV7FKG0	ROM IC		
IC60			K6R4008V1DUC10	SRAM IC		
IC61			TC74VHC125FT	MOS-IC		
IC62			TC74HCT7007AF	MOS-IC		
IC63			SN74LVC1G32DC3	MOS-IC		
Q1			2SB1218A(Q,R)	TRANSISTOR		
Q2			2SD1819A(Q,R)	TRANSISTOR		
Q51			2SC4081(R,S)	TRANSISTOR		
A1 ,2			W02-4524-05	OPTIC RECEIVING MODULE		
A3			W02-4540-05	OSCILLATING MODULE		
					4567	89
AUDIO (X09-6960-10)						
C1 ,2			CC45FSL1H221J	CERAMIC	220PF	J
C3 ,4			CD04BJ1H100M	ELECTRO	10UF	50WV
C5 ,6			CC45FSL1H221J	CERAMIC	220PF	J
C7 ,8			CD04BJ1A101M	ELECTRO	100UF	10WV
C9 ,10			CC45FSL1H271J	CERAMIC	270PF	J
C11 ,12			CQ93FMG1H123J	MYLAR	0.012UF	J
C13 ,14			CK45FB1H332K	CERAMIC	3300PF	K
C15 ,16			CD04BJ1H4R7M	ELECTRO	4.7UF	50WV
C17 ,18			CC45FSL1H101J	CERAMIC	100PF	J
C19 -38			CC45FSL1H221J	CERAMIC	220PF	J
C39			CC45FSL1H101J	CERAMIC	100PF	J
C40			CK45FF1H103Z	CERAMIC	0.010UF	Z
C41			CK45FF1H103Z	CERAMIC	0.010UF	Z
C42			CK45FF1H103Z	CERAMIC	0.010UF	Z
C44 ,45			CD04BJ1E470M	ELECTRO	47UF	25WV
C46 ,47			CQ93FMG1H823J	MYLAR	0.082UF	J
C48 ,49			CC45FSL1H101J	CERAMIC	100PF	J
C51 -54			C91-1573-05	MP-C	0.10UF	J
C55 ,56			CQ93FMG1H272J	MYLAR	2700PF	J
C57 ,58			CD04BJ1H2R2M	ELECTRO	2.2UF	50WV
C62 ,63			CD04BJ1H3R3M	ELECTRO	3.3UF	50WV
C64 ,65		*	CD04BJ2A3R3M	ELECTRO	3.3UF	100WV
C66 ,67			CC45FSL1H331J	CERAMIC	330PF	J
C68			CC45FCH1H070D	CERAMIC	7.0PF	D
C69			CC45FCH1H080D	CERAMIC	8.0PF	D
C70 ,71			CK45FB1H222K	CERAMIC	2200PF	K
C72 ,73			CC45FSL1H101J	CERAMIC	100PF	J
C74 ,75			CD04BJ1A221M	ELECTRO	220UF	10WV
C76 ,77			CC45FCH1H151J	CERAMIC	15PF	J
C78 ,79			CK45FB1H561K	CERAMIC	560PF	K
C84 ,85			CD04BJ1E470M	ELECTRO	47UF	25WV
C86 ,87			CC45FSL1H151J	CERAMIC	150PF	J
						X5E4E5
						X5E4E5

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C88 ,89 C90 ,91 C90 ,91 C90 ,91 C90 ,91			CC45FSL2H470J C91-1573-05 C91-1573-05 C91-1573-05 C91-1577-05	CERAMIC 47PF J MP-C 0.10UF J MP-C 0.10UF J MP-C 0.10UF J MP-C 0.22UF J	K4K5P4 P5 6789 X5E4E5	
C92 ,93 C94 ,95 C111-114 C115,116 C117,118			C91-1577-05 CK45FB1H332K CD04BJ1H3R3M CC45FSL1H331J CC45FCH1H050C	MP-C 0.22UF J CERAMIC 3300PF K ELECTRO 3.3UF 50WV CERAMIC 330PF J CERAMIC 5.0PF C	X5E4E5	
C119,120 C121,122 C123,124 C125,126 C127,128			CK45FB1H222K CC45FSL1H101J CD04BJ1A221M CC45FCH1H150J CK45FB1H561K	CERAMIC 2200PF K CERAMIC 100PF J ELECTRO 220UF 10WV CERAMIC 15PF J CERAMIC 560PF K		
C133,134 C135,136 C137,138 C139-142 C139,140			CD04BJ1H220M CC45FSL1H151J CC45FSL2H470J C91-1577-05 C91-1573-05	ELECTRO 22UF 50WV CERAMIC 150PF J CERAMIC 47PF J MP-C 0.22UF J MP-C 0.10UF J	X5E4E5 K4K5P4	
C139,140 C139,140 C161 C163 C165		*	C91-1573-05 C91-1573-05 CD04BJ1H3R3M CD04BJ2A3R3M CC45FSL1H331J	MP-C 0.10UF J MP-C 0.10UF J ELECTRO 3.3UF 50WV ELECTRO 3.3UF 100WV CERAMIC 330PF J	P5 6789	
C167 C169 C171 C173 C175			CC45FCH1H060D CK45FB1H222K CC45FSL1H101J CD04BJ1A221M CC45FCH1H150J	CERAMIC 6.0PF D CERAMIC 2200PF K CERAMIC 100PF J ELECTRO 220UF 10WV CERAMIC 15PF J		
C177 C183 C185 C187 C189-192			CK45FB1H561K CD04BJ1E470M CC45FSL1H151J CC45FSL2H470J C91-1577-05	CERAMIC 560PF K ELECTRO 47UF 25WV CERAMIC 150PF J CERAMIC 47PF J MP-C 0.22UF J	X5E4E5	
C189,190 C189,190 C189,190 C193 C195,196			C91-1573-05 C91-1573-05 C91-1573-05 CK45FB1H332K CK45FB1H332K	MP-C 0.10UF J MP-C 0.10UF J MP-C 0.10UF J CERAMIC 3300PF K CERAMIC 3300PF K	K4K5P4 P5 6789	
C301,302 C303 C304 C305 C306		*	C90-5840-05 CQ93FMG1H103J CD04BJ1A221M CD04BJ1H101M CD04BJ2A101M1	ELECTRO 0.01UF 75WV MYLAR 0.010UF J ELECTRO 220UF 10WV ELECTRO 100UF 50WV ELECTRO 100UF 100WV		
C308 C309-311 C312 C315 C316		*	CD04BJ1H100M CD04BJ1H220M CD04BJ1A101M CD04BJ2A330M CD04BJ2A100M	ELECTRO 10UF 50WV ELECTRO 22UF 50WV ELECTRO 100UF 10WV ELECTRO 33UF 100WV ELECTRO 10UF 100WV		
C317,318 C319,320 C323 C324,325 C351-353		*	CD04BJ2A220M CC45FSL1H101J CK45FB1H102K CD04BJ1C471M CC45FSL1H221J	ELECTRO 22UF 100WV CERAMIC 100PF J CERAMIC 1000PF K ELECTRO 470UF 16WV CERAMIC 220PF J		

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C354 C355-360 C361,362 C363 C364		*	CQ93FMG1H122J CK45FF1H472Z CD04BJ1H220M CD04BJ1E470M CD04AU1H2R2M	MYLAR 1200PF J CERAMIC 4700PF Z ELECTRO 22UF 50WV ELECTRO 47UF 25WV NP-ELEC 2.2UF 50WV		
C365 C366 C367 C368 C369			CD04BJ1A221M CD04BJ1H4R7M CD04BJ1A221M CD04BJ1H4R7M CD04AU1E220M	ELECTRO 220UF 10WV ELECTRO 4.7UF 50WV ELECTRO 220UF 10WV ELECTRO 4.7UF 50WV NP ELEC 22UF 25WV		
C370 C450 C451-453 C501,502 C503			CK45FB1H102K CK45FE2H103P CK45FE2H102K CC45FSL1H221J CK45FF1H103Z	CERAMIC 1000PF K CERAMIC 0.010UF P CERAMIC 1000PF K CERAMIC 220PF J CERAMIC 0.010UF Z		
C600 C609 C610 C611 C722		*	CD04BJ1E101M CC45FCH1H100D CD04BJ2A101M1 CD04BJ1H220M CD04BJ1H220M	ELECTRO 100UF 25WV CERAMIC 10PF D ELECTRO 100UF 100WV ELECTRO 22UF 50WV ELECTRO 22UF 50WV		
CN4 ,5 J3 J5 J6 J11 ,12		*	E41-1435-05 E63-1379-05 E70-1009-05 E70-1010-05 E63-1380-05	FLAT CABLE CONNECTOR PIN JACK SCREW TERMINAL BOARD LOCK TERMINAL BOARD PIN JACK		
J21 ,22 J501		*	E63-1380-05 E11-0993-05	PIN JACK PHONE JACK (WITH SW LF)	X5E4E5	
E501			J11-0898-05	WIRE CLAMPER		
L1 -6		*	L39-1631-05	PHASE COMPENSATION COIL		
R61 ,62 R81 -84 R85 ,86 R87 ,88 R93 -96			RS14KB3A821J RD14NB2E221J RD14NB2E562J RD14NB2E331J RD14NB2E470J	FL-PROOF RS 820 J 1W RD 220 J 1/4W RD 5.6K J 1/4W RD 330 J 1/4W RD 47 J 1/4W		
R97 ,98 R99 ,100 R101,102 R103,104 R131-134			RD14NB2E221J RD14NB2E330J RS14KB3D4R7J RS14KB3D391J RD14NB2E221J	RD 220 J 1/4W RD 33 J 1/4W FL-PROOF RS 4.7 J 2W FL-PROOF RS 390 J 2W RD 220 J 1/4W		
R135,136 R137,138 R143-146 R147,148 R149,150			RD14NB2E562J RD14NB2E331J RD14NB2E470J RD14NB2E221J RD14NB2E330J	RD 5.6K J 1/4W RD 330 J 1/4W RD 47 J 1/4W RD 220 J 1/4W RD 33 J 1/4W		
R151,152 R181 R183 R185 R187			RS14KB3D4R7J RD14NB2E221J RD14NB2E221J RD14NB2E562J RD14NB2E331J	FL-PROOF RS 4.7 J 2W RD 220 J 1/4W RD 220 J 1/4W RD 5.6K J 1/4W RD 330 J 1/4W		
R193 R195 R197,198 R199,200			RD14NB2E470J RD14NB2E470J RD14NB2E221J RD14NB2E330J	RD 47 J 1/4W RD 47 J 1/4W RD 220 J 1/4W RD 33 J 1/4W		

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Δ R201,202			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
Δ R303			RD14NB2E561J	RD 560 J 1/4W		
Δ R304			RS14KB3A822J	FL-PROOF RS 8.2K J 1W		
Δ R306			RD14NB2E101J	RD 100 J 1/4W		
Δ R307			RD14NB2E822J	RD 8.2K J 1/4W		
R310			RS14KB3A390J	FL-PROOF RS 39 J 1W		
R311			RS14KB3A680J	FL-PROOF RS 68 J 1W		
R314			RS14KB3A681J	FL-PROOF RS 680 J 1W		
R317			RS14KB3D152J	FL-PROOF RS 1.5K J 2W		
R318			RS14KB3D222J	FL-PROOF RS 2.2K J 2W		
Δ R321,322			RD14NB2E1R0J	RD 1 J 1/4W		
Δ R325,326			RD14NB2E472J	RD 4.7K J 1/4W		
R331-333			RS14KB3D182J	FL-PROOF RS 1.8K J 2W		
R342			RS14KB3A100J	FL-PROOF RS 10 J 1W		
R343			RS14KB3A470J	FL-PROOF RS 47 J 1W		
R454			RS14KB3A391J	FL-PROOF RS 390 J 1W		
Δ R476			RD14NB2E561J	RD 560 J 1/4W		
R627			RD14NB2E472J	RD 4.7K J 1/4W		
R733			RD14NB2E470J	RD 47 J 1/4W		
R735			RD14NB2E470J	RD 47 J 1/4W		
VR1 -6			R32-0118-05	SEMI FIXED VARIABLE RESISTOR		
K2 -5			S76-0098-05	MAGNETIC RELAY		
D1 -5			1SS133	DIODE	X5E4E5	
D6			1SS133	DIODE	X5E4E5	
D7			MTZJ5.1(B)	ZENER DIODE	X5E4E5	
D8			MTZJ3.9(B)	ZENER DIODE	X5E4E5	
Δ D12		*	D5SBA20-7000	DIODE	X5E4E5	
Δ D12			D5SBA20-7003	DIODE	K4K5P4	
Δ D12			D5SBA20-7003	DIODE	P5	
Δ D14 ,15			S5688B	DIODE	6789	
D16			1SS133	DIODE		
D17			MTZJ16(B)	ZENER DIODE		
D18			MTZJ15(B)	ZENER DIODE		
D19			MTZJ16(B)	ZENER DIODE		
D20			MTZJ6.2(B)	ZENER DIODE		
D21			MTZJ6.8(B)	ZENER DIODE		
D22			MTZJ5.1(B)	ZENER DIODE	X5	
D23			MTZJ13(B)	ZENER DIODE	K4K5P4	
D23			MTZJ15(B)	ZENER DIODE	P5	
D23			MTZJ15(B)	ZENER DIODE	6789	
D23			MTZJ15(B)	ZENER DIODE		
D23			MTZJ15(B)	ZENER DIODE		
D23			MTZJ7.5(B)	ZENER DIODE	E4E5	
D24			MTZJ7.5(B)	ZENER DIODE	X5	
D24			MTZJ8.2(B)	ZENER DIODE	K4K5P4	
D24			MTZJ8.2(B)	ZENER DIODE	P5E4E5	
D24			MTZJ8.2(B)	ZENER DIODE	6789	
D25			MTZJ30(B)	ZENER DIODE		
D26			MTZJ3.9(B)	ZENER DIODE	E4E5	
D27			1SS244	DIODE		
D28 ,29			1SS133	DIODE		
D32 -35			1SS133	DIODE		
D51 ,52			1SS244	DIODE		

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D53 ,54			1SS133	DIODE		
D55 ,56			1SS244	DIODE		
D57 ,58			1SS133	DIODE		
D59 ,60			1SS244	DIODE		
D61 ,62			1SS133	DIODE		
D63			MTZJ3.9(B)	ZENER DIODE		
D64			1SS133	DIODE		
D65			MTZJ3.9(B)	ZENER DIODE		
D66			1SS133	DIODE		
D67			MTZJ3.9(B)	ZENER DIODE		
D68			1SS133	DIODE		
D69			MTZJ3.9(B)	ZENER DIODE		
D602-604			1SS133	DIODE		
D608			MTZJ30(B)	ZENER DIODE		
D609			MTZJ20(B)	ZENER DIODE		
IC1		*	NJM4580L-ZB	ANALOGUE IC		
IC2			M61516FP-RF0G	ANALOGUE IC		
Q1 -4			2SA992(F,E)	TRANSISTOR		
Q5 ,6			2SA1123(R,S)	TRANSISTOR		
Q7 -10			2SC2631(R,S)	TRANSISTOR		
Q21 -24			2SA992(F,E)	TRANSISTOR		
Q25 ,26			2SA1123(R,S)	TRANSISTOR		
Q27 -30			2SC2631(R,S)	TRANSISTOR		
Q41			2SA992(F,E)	TRANSISTOR		
Q43			2SA992(F,E)	TRANSISTOR		
Q45			2SA1123(R,S)	TRANSISTOR		
Q47			2SC2631(R,S)	TRANSISTOR		
Q49			2SC2631(R,S)	TRANSISTOR		
Δ Q302			DTC113ZSA	DIGITAL TRANSISTOR		
Δ Q303			2SC3940A(R,S)	TRANSISTOR		
Δ Q304		*	2SB1640	TRANSISTOR		
Δ Q305			DTC143ZSA	DIGITAL TRANSISTOR		
Δ Q306			2SB1640	TRANSISTOR		
Q307			2SD2525	TRANSISTOR		
Q308			2SA992(F,E)	TRANSISTOR		
Q309-312			KTC3200	TRANSISTOR		
Q313		*	DTC143ZSA	DIGITAL TRANSISTOR	E4E5	
Q331-335			2SC2878(B)-F	TRANSISTOR		
Q353-358			2SC1845(F,E)	TRANSISTOR		
Q359			2SA992(F,E)	TRANSISTOR		
Q360,361			2SC1845(F,E)	TRANSISTOR		
Q362			2SA992(F,E)	TRANSISTOR		
Q363,364			2SC1845(F,E)	TRANSISTOR		
Q365			2SA992(F,E)	TRANSISTOR		
Q602-604			2SC1845(F,E)	TRANSISTOR		
Q605,606			2SC2878(B)-F	TRANSISTOR		
Q607			2SA992(F,E)	TRANSISTOR		
Δ Q610			2SD2012	TRANSISTOR		
Q611			KTC3199(Y,GR)	TRANSISTOR	X5E4E5	
Q612			KTA1267(Y,GR)	TRANSISTOR	X5E4E5	
<b>SUB (X13-7960-10)</b>						
C101-106			CC45FCH1H100D	CERAMIC 10PF D		
C107,108			CC45FSL1H820J	CERAMIC 82PF J	6789	
C109			CC45FCH1H100D	CERAMIC 10PF D	6789	
C110-115			CD04BJ1H010M	ELECTRO 1.0UF 50WV		

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C116-118 C119-126 C127 C128,129 C128,129			CD04BJ1A471M CK45FF1H103Z CD04BJ1V330M CC45FCH1H100D CC45FSL1H820J	ELECTRO 470UF 10WV CERAMIC 0.010UF Z ELECTRO 33UF 35WV CERAMIC 10PF D CERAMIC 82PF J	6789 45	
C130 C131-133 C134-136 C137 C138-140			CC45FCH1H100D CD04BJ1H010M CK45FF1H103Z CD04BJ1E470M CQ93FMG1H104J	CERAMIC 10PF D ELECTRO 1.0UF 50WV CERAMIC 0.010UF Z ELECTRO 47UF 25WV MYLAR 0.10UF J	6789 6789	
C141 C142 C143-145 C151,152 C153,154			CC45FCH1H100D CD04BJ1H100M CK73GB1H104K CD04BJ1H4R7M CD04BJ1E470M	CERAMIC 10PF D ELECTRO 10UF 50WV CHIP C 0.10UF K ELECTRO 4.7UF 50WV ELECTRO 47UF 25WV	4567	
C155,156 C157,158 C169 C201 C202			CC45FSL1H820J CD04BJ1H220M CK73GB1H331K CD04BJ1H100M CK45FF1H103Z	CERAMIC 82PF J ELECTRO 22UF 50WV CHIP C 330PF K ELECTRO 10UF 50WV CERAMIC 0.010UF Z	89 89	
C203 C205,206 C207 C208 C209			CQ93FMG1H683J CK45FF1H103Z CD04BJ1A101M CD04BJ1A221M CK45FF1H103Z	MYLAR 0.068UF J CERAMIC 0.010UF Z ELECTRO 100UF 10WV ELECTRO 220UF 10WV CERAMIC 0.010UF Z	89 89 89 89 89	
C210 C211-213 C214,215 C216 C301-309			CC45FSL1H221J CC45FSL1H101J CK45FF1H103Z CD04BJ1H010M CC45FSL1H221J	CERAMIC 220PF J CERAMIC 100PF J CERAMIC 0.010UF Z ELECTRO 1.0UF 50WV CERAMIC 220PF J	89 89 89 89 89	
C310 C311-313 C315-317 C401-406 C407,408			CC45FSL1H221J CK45FB1H332K CC45FSL1H101J CD04BJ1H220M CK45FB1H471K	CERAMIC 220PF J CERAMIC 3300PF K CERAMIC 100PF J ELECTRO 22UF 50WV CERAMIC 470PF K		
C409,410 C411,412 C419 C420 C425,426			CC73GCH1H471J CK45FB1H471K CD04BJ1E221M CD04BJ1E101M CC45FSL1H101J	CHIP C 470PF J CERAMIC 470PF K ELECTRO 220UF 25WV ELECTRO 100UF 25WV CERAMIC 100PF J		
C427,428 C429,430 C431-436 C437,438 C439			CC73GCH1H100D CC45FCH1H100D CD04BJ1E470M CD04AU1E220M CD04BJ1E470M	CHIP C 10PF D CERAMIC 10PF D ELECTRO 47UF 25WV NP ELEC 22UF 25WV ELECTRO 47UF 25WV	89 89 89	
C440 C441,442 C443-446 C447 C448		*	CD04BJ1H100M CD04BJ1A101M CD04BJ1H220M CD04BJ1H100M CD04BJ2A3R3M	ELECTRO 10UF 50WV ELECTRO 100UF 10WV ELECTRO 22UF 50WV ELECTRO 10UF 50WV ELECTRO 3.3UF 100WV	89 89	
C449,450 C451 C452 C453,454 C455			CD04BJ1H220M CD04BJ1E221M CD04BJ1H220M CK45FB1H471K CD04AU1E220M	ELECTRO 22UF 50WV ELECTRO 220UF 25WV ELECTRO 22UF 50WV CERAMIC 470PF K NP ELEC 22UF 25WV		

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C457 C458 C459 C460,461 C463,464			CQ93FMG1H392J CC45FCH1H100D CC73GCH1H470J CC73GCH1H101J CD04BJ1E470M	MYLAR 3900PF J CERAMIC 10PF D CHIP C 47PF J CHIP C 100PF J ELECTRO 47UF 25WV	89	
C536 C538 C540 C544,545 C600			CK73GB1H182K CK73GB1H102K CD04BJ1H220M CK73GB1H103K CD04BJ1H100M	CHIP C 1800PF K CHIP C 1000PF K ELECTRO 22UF 50WV CHIP C 0.010UF K ELECTRO 10UF 50WV	6789 6789 6789 6789 6789	
C601-606 C607 C608-611 C612 C613-615			CC45FSL1H470J CC45FSL1H470J CD04BJ1E470M CD04BJ1A101M CD04BJ1V330M	CERAMIC 47PF J CERAMIC 47PF J ELECTRO 47UF 25WV ELECTRO 100UF 10WV ELECTRO 33UF 35WV	89 6789 6789	
C616 C617 C618 C619 C620			CD04BJ1E470M CK73GB1H103K CD04BJ1H100M CD04BJ1V330M CD04BJ1H100M	ELECTRO 47UF 25WV CHIP C 0.010UF K ELECTRO 10UF 50WV ELECTRO 33UF 35WV ELECTRO 10UF 50WV	6789 6789 6789 6789 6789	
C621 C622 C625 C626,627 C651-662			CK73GB1H104K CD04BJ1V330M CD04BJ1H0R1M CK73FB1C105K CC45FSL1H470J	CHIP C 0.10UF K ELECTRO 33UF 35WV ELECTRO 0.1UF 50WV CHIP C 1.0UF K CERAMIC 47PF J	6789 6789 6789 6789 6789	
C663 C664 C665 C666 C667			CK45FF1H103Z CD04BJ1E470M CK45FF1H103Z CD04BJ1E470M CK45FF1H103Z	CERAMIC 0.010UF Z ELECTRO 47UF 25WV CERAMIC 0.010UF Z ELECTRO 47UF 25WV CERAMIC 0.010UF Z		
C668 C669 C670,671 C672 C673			CD04BJ1E470M CK45FF1H103Z CD04BJ1E470M CK45FF1H103Z CD04BJ1E470M	ELECTRO 47UF 25WV CERAMIC 0.010UF Z ELECTRO 47UF 25WV CERAMIC 0.010UF Z ELECTRO 47UF 25WV		
C674-677 C681 C682 C693 C694			CD04BJ1H100M CD04BJ1A471M CK73GB1H104K CC45FSL1H101J CK73GB1H103K	ELECTRO 10UF 50WV ELECTRO 470UF 10WV CHIP C 0.10UF K CERAMIC 100PF J CHIP C 0.010UF K	6789 6789 K4K5P4	
C694 C694 C699 C702-705 C706,707			CK73GB1H103K CK73GB1H103K CK73GB1H104K CD04BJ1H3R3M CC45FSL1H331J	CHIP C 0.010UF K CHIP C 0.010UF K CHIP C 0.10UF K ELECTRO 3.3UF 50WV CERAMIC 330PF J	P5 6789 6789	
C708,709 C710,711 C712 C713 C714,715			CK45FB1H222K CC45FCH1H050C CC45FSL1H221J CC45FSL1H101J CD04BJ1A221M	CERAMIC 2200PF K CERAMIC 5.0PF C CERAMIC 220PF J CERAMIC 100PF J ELECTRO 220UF 10WV		
C716,717 C718,719 C720 C721 C722			CC45FCH1H150J CC45FSL1H151J CK45FB1H102K CK45FB1H561K CD04BJ1H220M	CERAMIC 15PF J CERAMIC 150PF J CERAMIC 1000PF K CERAMIC 560PF K ELECTRO 22UF 50WV		

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C724,725			CC45FSL2H470J	CERAMIC 47PF J		
C728			CK45FF1H472Z	CERAMIC 4700PF Z		
C730			C91-1573-05	MP-C 0.10UF J		
C730			C91-1573-05	MP-C 0.10UF J		
C730			C91-1573-05	MP-C 0.10UF J		
C730			C91-1577-05	MP-C 0.22UF J		
C732			C91-1577-05	MP-C 0.22UF J		
C733			CC45FSL1H101J	CERAMIC 100PF J		
C734			CK45FF1H103Z	CERAMIC 0.010UF Z		
CN301			E41-1435-05	FLAT CABLE CONNECTOR		
J61 ,62			E63-1384-05	PIN JACK		
J63			E63-1383-05	PIN JACK		
J65 -67			E56-0059-05	CYLINDRICAL RECEPTACLE		
J101			E63-1385-05	PIN JACK		
J102			E63-1386-05	PIN JACK		
J103			E63-1386-05	PIN JACK		
J201			E11-0995-05	3.5D PHONE JACK(1P LF)		
J202			E11-0991-05	3.5D PHONE JACK(2P LF)		
J302			E63-1364-05	PIN JACK		
J303			E63-1382-05	PIN JACK		
J305			E63-1359-05	PIN JACK		
J502			E70-1011-05	SCREW TERMINAL BOARD		
L201			L40-1011-58	SMALL FIXED INDUCTOR(100UH,K)		
L202			L92-0017-05	FERRITE CORE		
L502			L76-0018-05	DELAY LINE		
L702			L39-1631-05	PHASE COMPENSATION COIL		
R1 -10			RK73GB2A000JK	CHIP R 0 J 1/10W		
R70 -77			RK73GB2A000JK	CHIP R 0 J 1/10W		
R72			RK73GB2A000JK	CHIP R 0 J 1/10W		
R77 -79			RK73GB2A000JK	CHIP R 0 J 1/10W		
R80			RK73GB2A000JK	CHIP R 0 J 1/10W		
Δ R205			RD14BB2C101J	RD 100 J 1/6W		
R213,214			RD14NB2E471J	RD 470 J 1/4W		
R217			RD14NB2E471J	RD 470 J 1/4W		
R403,404			RK73GB2A223J	CHIP R 22K J 1/10W		
R409,410			RK73GB2A622J	CHIP R 6.2K J 1/10W		
R415,416			RK73GB2A473J	CHIP R 47K J 1/10W		
R421,422			RK73GB2A220J	CHIP R 22 J 1/10W		
Δ R425			RD14NB2E561J	RD 560 J 1/4W		
R426,427			RK73GB2A102J	CHIP R 1.0K J 1/10W		
R428			RK73GB2A102J	CHIP R 1.0K J 1/10W		
R429			RK73GB2A103J	CHIP R 10K J 1/10W		
R430,431			RK73GB2A103J	CHIP R 10K J 1/10W		
R432			RK73GB2A102J	CHIP R 1.0K J 1/10W		
Δ R434			RD14NB2E150J	RD 15 J 1/4W		
R443,444			RK73GB2A183J	CHIP R 18K J 1/10W		
Δ R450			RD14NB2E561J	RD 560 J 1/4W		
R451			RD14NB2E102J	RD 1.0K J 1/4W		
Δ R452			RD14NB2E150J	RD 15 J 1/4W		
R466,467			RK73GB2A100J	CHIP R 10 J 1/10W		
R529			RK73GB2A103J	CHIP R 10K J 1/10W		
R530			RK73GB2A223J	CHIP R 22K J 1/10W		
R532			RK73GB2A332J	CHIP R 3.3K J 1/10W		
R534			RK73GB2A562J	CHIP R 5.6K J 1/10W		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
R536			RK73GB2A103J	CHIP R 10K J 1/10W		
R539			RK73GB2A223J	CHIP R 22K J 1/10W		
R540			RK73GB2A103J	CHIP R 10K J 1/10W		
R542			RK73GB2A104J	CHIP R 100K J 1/10W		
R545			RK73GB2A101J	CHIP R 100 J 1/10W		
R546			RK73GB2A474J	CHIP R 470K J 1/10W		
R549			RK73GB2A183J	CHIP R 18K J 1/10W		
R550			RK73GB2A103J	CHIP R 10K J 1/10W		
R552			RK73GB2A363J	CHIP R 36K J 1/10W		
R554			RK73GB2A103J	CHIP R 10K J 1/10W		
R556			RK73GB2A472J	CHIP R 4.7K J 1/10W		
R561,562			RK73GB2A104J	CHIP R 100K J 1/10W		
R563,564			RK73GB2A102J	CHIP R 1.0K J 1/10W		
R600			RK73GB2A101J	CHIP R 100 J 1/10W		
R611,612			RK73GB2A101J	CHIP R 100 J 1/10W		
R613			RK73GB2A105J	CHIP R 1.0M J 1/10W		
R617			RS14KB3A150J	FL-PROOF RS 15 J 1W		
R621-623			RK73GB2A104J	CHIP R 100K J 1/10W		
R624			RS14KB3A150J	FL-PROOF RS 15 J 1W		
R667			RK73GB2A104J	CHIP R 100K J 1/10W		
Δ R671			RS14KB3A150J	FL-PROOF RS 15 J 1W		
Δ R674			RS14KB3A470J	FL-PROOF RS 47 J 1W		
R695			RK73GB2A101J	CHIP R 100 J 1/10W		
R699			RK73GB2A105J	CHIP R 1.0M J 1/10W		
R723,724			RD14NB2E221J	RD 220 J 1/4W		
R725,726			RD14NB2E562J	RD 5.6K J 1/4W		
R727,728			RD14NB2E331J	RD 330 J 1/4W		
R729,730			RD14NB2E221J	RD 220 J 1/4W		
R746			RD14NB2E330J	RD 33 J 1/4W		
R748			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R752			RS14KB3D182J	FL-PROOF RS 1.8K J 2W		
R756			RD14NB2E470J	RD 47 J 1/4W		
R758			RD14NB2E470J	RD 47 J 1/4W		
R760			RD14NB2E221J	RD 220 J 1/4W		
VR702			R32-0118-05	SEMI FIXED VARIABLE RESISTOR		
K702			S76-0098-05	MAGNETIC RELAY		
D101			MTZJ10(B)	ZENER DIODE		
D155-157			MTZJ7.5(B)	ZENER DIODE		
Δ D201-206			1SS133	DIODE		
D401			MTZJ3.9(B)	ZENER DIODE		
D402			MTZJ5.1(B)	ZENER DIODE		
D503			DA204U	DIODE		
D652			1SS133	DIODE		
D655,656			MTZJ5.6(B)	ZENER DIODE		
D701-704			1SS133	DIODE		
D706			1SS244	DIODE		
D708			1SS133	DIODE		
D710			1SS133	DIODE		
IC3			BU4066BC	ANALOGUE IC		
IC6			RC4580IP	ANALOGUE IC		
IC11			NJM2585M	ANALOGUE IC		
IC65			LA79510M-E	ANALOGUE IC		
IC66			NJM2284V	ANALOGUE IC		
IC68,69			NJM2575	ANALOGUE IC		

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## PARTS LIST

KRF-V7090D/VR-9050/9060/9070



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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
Δ IC201 IC401-404 IC507 IC508 Q65		*	BA05T RC4580IP BA4560F BA7623F 2SD2525	ANALOGUE IC ANALOGUE IC ANALOGUE IC ANALOGUE IC TRANSISTOR	89 6789 6789	
Δ Q66 Q101 Q158,159 Q201 Q202,203			2SB1640 2SC2003(L,K) KRC103M KRC103M 2SC1740S(Q,R)	TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR	89 89	
Q204 Q301-309 Q310 Q311-319 Q320			2SA933AS(Q,R) 2SC2878(B)-F 2SC2878(B)-F 2SC2878(B)-F 2SC2878(B)-F	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	89 89 89	
Q401,402 Q403-408 Q409 Q410 Q411,412			DTA124EUA 2SC2878(B)-F KRA103M DTA124EUA 2SC2878(B)-F	DIGITAL TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR	89 89 89 89	
Q501,502 Q512 Q701,702 Q703-706 Q707,708			2SC4213(B) 2SC4081(R,S) 2SC2878(B)-F 2SA992(F,E) 2SC2631(R,S)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	6789 6789	
Q709,710 Q711,712 Q714 Q716			2SA1123(R,S) 2SC2631(R,S) 2SC1845(F,E) KTC3200	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
<b>DISPLAY (X14-7900-10)</b>						
D734 D741-745 D741-745 D741-745 D741-752			B30-2545-05 B30-2545-05 B30-2545-05 B30-2545-05 B30-2651-05	LED(RED3(160)) LED(RED3(160)) LED(RED3(160)) LED(RED3(160)) LED(RED,D3,40DEG,)	K4K5P4 P5X5 6789 E4E5	
D746-752 D746-752 D753 D754 D754			B30-2651-05 B30-2651-05 B30-2545-05 B30-2651-05 B30-2651-05	LED(RED,D3,40DEG,) LED(RED,D3,40DEG,) LED(RED3(160)) LED(RED,D3,40DEG,) LED(RED,D3,40DEG,)	K4K5P4 P5X5 K4K5P4 P5X5	
D754,755 D755 D755 D755			B30-2651-05 B30-2545-05 B30-2545-05 B30-2545-05	LED(RED,D3,40DEG,) LED(RED3(160)) LED(RED3(160)) LED(RED3(160))	E4E5 K4K5P4 P5X5 6789	
C101 C103 C104 C105 C401			CC45FCH1H101J CK73GB1H103K CC73GCH1H101J CC45FCH1H101J CK45FE2H103P	CERAMIC CHIP C CHIP C CERAMIC CERAMIC	100PF J 0.010UF K 100PF J 100PF J 0.010UF P	E4E5
C402 C403 C404-407 C408,409 C410			CD04BJ1E222M CD04BJ1E102M CK73GB1H103K CD04BJ1E470M CC73GCH1H680J	ELECTRO ELECTRO CHIP C ELECTRO CHIP C	2200UF 25WV 1000UF 25WV 0.010UF K 47UF 25WV 68PF J	

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C411 C451 C452 C452 C452			CC73GCH1H820J CK45FF1H103Z CQ93FMG1H104J CQ93FMG1H104J CQ93FMG1H104J	CHIP C CERAMIC MYLAR MYLAR MYLAR	82PF J 0.010UF Z 0.10UF J 0.10UF J 0.10UF J	K4K5P4 P5 6789
C452 C452 C453 C453 C453		*	CQ93FMG1H393J CQ93FMG1H473J CD04BJ1C332M CD04BJ1C332M CD04BJ1C332M	MYLAR MYLAR ELECTRO ELECTRO ELECTRO	0.039UF J 0.047UF J 3300UF 16WV 3300UF 16WV 3300UF 16WV	E4E5 X5 K4K5P4 P5 6789
C453 C454 C456,457 C458 C459		*	CD04BJ1E332M CD04BJ1H100M CK45FF1H103Z CD04BJ1H100M CD04BJ1H010M	ELECTRO ELECTRO CERAMIC ELECTRO ELECTRO	3300UF 25WV 10UF 50WV 0.010UF Z 10UF 50WV 1.0UF 50WV	X5E4E5
C501-504 C505,506 C507,508 C509 C510,511			CC73GCH1H101J CK73GB1H102K CC73GCH1H101J CC73GCH1H471J CC73GCH1H101J	CHIP C CHIP C CHIP C CHIP C CHIP C	100PF J 1000PF K 100PF J 470PF J 100PF J	
C536 C538 C540 C544,545 C550			CK73GB1H182K CK73GB1H102K CD04BJ1H220M CK73GB1H103K CK73GB1A105K	CHIP C CHIP C ELECTRO CHIP C CHIP C	1800PF K 1000PF K 22UF 50WV 0.010UF K 1.0UF K	
C701 C702 C703,704 C705 C741			CC73GCH1H221J CD04BJ1H101M CK73GB1H102K CC73GCH1H181J CK73EB1E105K	CHIP C ELECTRO CHIP C CHIP C CHIP C	220PF J 100UF 50WV 1000PF K 180PF J 1.0UF K	
C761-766 C777 C778 C779 C780			CK73GB1H103K CK45FB1H102K CC45FCH1H101J CD04BJ1A101M CC73GCH1H270J	CHIP C CERAMIC CERAMIC ELECTRO CHIP C	0.010UF K 1000PF K 100PF J 100UF 10WV 27PF J	
C791 C792 C793,794 C811 C812,813			CD04AT0J470M CD04BJ1H220M CK45FF1H103Z CK45FF1H103Z CC45FCH1H270J	ELECTRO ELECTRO CERAMIC CERAMIC CERAMIC	47UF 6.3WV 22UF 50WV 0.010UF Z 0.010UF Z 27PF J	X5E4E5 X5E4E5
C814 C815 C816 C817 C818			CC45FCH1H101J CD04BJ1E470M CK45FB1H561K CK45FF1H103Z CC73GCH1H271J	CERAMIC ELECTRO CERAMIC CERAMIC CHIP C	100PF J 47UF 25WV 560PF K 0.010UF Z 270PF J	X5E4E5 X5E4E5 X5E4E5 X5E4E5 X5E4E5
C819 C841 C841 C841 C842			CD04BJ1H2R2M CD04BJ0J102M CD04BJ0J102M CD04BJ0J102M C90-5647-05	ELECTRO ELECTRO ELECTRO ELECTRO ELECTRO	2.2UF 50WV 1000UF 6.3WV 1000UF 6.3WV 1000UF 6.3WV 0.047F 5.5WV	X5E4E5 K4K5P4 P5 6789 X5E4E5
C843 C844 C845 C851 C852			CD04BJ1H010M CK45FF1H103Z CK73GB1H103K CD04BJ1H100M CC45FSL1H221J	ELECTRO CERAMIC CHIP C ELECTRO CERAMIC	1.0UF 50WV 0.010UF Z 0.010UF K 10UF 50WV 220PF J	

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C853-855 C856,857 C858 C907 C908			CC73GCH1H221J CK45FF1H103Z CD04BJ1A101M CK73GB1H103K CK45FF1H103Z	CHIP C 220PF J CERAMIC 0.010UF Z ELECTRO 100UF 10WV CHIP C 0.010UF K CERAMIC 0.010UF Z		
CN41 CN45 CN47 CN49 CN50			E41-0942-05 E41-0969-05 E41-0969-05 E41-0927-05 E41-1570-05	PIN ASSY PIN ASSY PIN ASSY PIN ASSY PIN ASSY		
CN70 CN80 CN90			E41-0942-05 E41-0942-05 E41-0928-05	PIN ASSY PIN ASSY PIN ASSY		
Δ J2 Δ J2		*	E03-0515-05 E03-0515-05	AC OUTLET AC OUTLET	K4K5P4 P5	
Δ J2 Δ J3 Δ J5 Δ J20 Δ J21		*	E03-0515-05 E03-0398-05 E03-0325-05 E63-1388-05 E56-0060-05	AC OUTLET AC OUTLET AC OUTLET PIN JACK CYLINDRICAL RECEPTACLE	6789 E4E5 X5	
Δ F1 Δ F1 Δ F1 Δ F1 Δ F2			F05-4025-05 F50-0078-05 F50-0078-05 F50-0078-05 F06-1022-05	FUSE (SEMKO) (250V T4A L) FUSE(5X20) FUSE(5X20) FUSE(5X20) FUSE (SEMKO) (250V T1AL)	X5E4E5 K4K5P4 P5 6789 X5E4E5	
CN11,12 CN21,22 E702,703			J13-0075-05 J13-0075-05 J11-0898-05	FUSE CLIP FUSE CLIP WIRE CLAMPER	X5E4E5	
Δ T1 Δ T1 Δ T1 Δ T1 Δ T1			L07-2758-05 L07-2761-05 L07-2809-05 L07-2809-05 L07-2809-05	POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER	X5 E4E5 K4K5P4 P5 6789	
X701 X811			L78-0725-05 L77-2002-05	RESONATOR (8.38MHZ) CRYSTAL RESONATOR(4.332MHZ)	X5E4E5	
R1 ,2 R11 ,12 R51 R120 Δ R410			RK73GB2A000JK RK73EB2E000JK RK73GB2A000JK RK73GB2A102J RS14KB3D181J	CHIP R 0 J 1/10W CHIP R 0 J 1/4W CHIP R 0 J 1/10W CHIP R 1.0K J 1/10W FL-PROOF RS 180 J 2W		
Δ R453 Δ R454 Δ R457 Δ R457 Δ R457			RD14NB2E1R0J RD14NB2E270J R92-1844-05 R92-1844-05 R92-1844-05	RD 1 J 1/4W RD 27 J 1/4W CARBON 3.3M J 1/2W CARBON 3.3M J 1/2W CARBON 3.3M J 1/2W	K4K5P4 P5 6789	
R501,502 R503,504 R505 R506 R507,508			RK73GB2A101J RK73GB2A104J RK73GB2A750J RK73GB2A101J RK73GB2A750J	CHIP R 100 J 1/10W CHIP R 100K J 1/10W CHIP R 75 J 1/10W CHIP R 100 J 1/10W CHIP R 75 J 1/10W		
R509,510 R530 R531-533 R534			RK73GB2A101J RK73GB2A1R0J RK73GB2A103J RK73GB2A223J	CHIP R 100 J 1/10W CHIP R 1 J 1/10W CHIP R 10K J 1/10W CHIP R 22K J 1/10W		

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R535 R536,537 R538 R539 R540			RK73GB2A562J RK73GB2A103J RK73GB2A223J RK73GB2A104J RK73GB2A101J	CHIP R 5.6K J 1/10W CHIP R 10K J 1/10W CHIP R 22K J 1/10W CHIP R 100K J 1/10W CHIP R 100 J 1/10W		
R541 R542 R543,544 R545 R776			RK73GB2A474J RK73GB2A183J RK73GB2A103J RK73GB2A222J RD14NB2E100J	CHIP R 470K J 1/10W CHIP R 18K J 1/10W CHIP R 10K J 1/10W CHIP R 2.2K J 1/10W RD 10 J 1/4W		
R779 R780 R782 R801,802 R803			RK73GB2A333J RD14NB2E100J RK73GB2A303J RK73GB2A331J RK73GB2A104J	CHIP R 33K J 1/10W RD 10 J 1/4W CHIP R 30K J 1/10W CHIP R 330 J 1/10W CHIP R 100K J 1/10W		
R805 R807,808 R847 R894 R896-898			RK73GB2A104J RK73GB2A103J RK73GB2A101J RK73GB2A101J RK73GB2A101J	CHIP R 100K J 1/10W CHIP R 10K J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W		
R910,911 R922-924 R926 R935 R938,939			RK73GB2A104J RK73GB2A101J RK73GB2A101J RK73GB2A101J RK73GB2A101J	CHIP R 100K J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W CHIP R 100 J 1/10W		
R941-945 R951,952 R954 R955,956 R967-969			RK73GB2A101J RK73GB2A104J RK73GB2A103J RK73GB2A101J RK73GB2A104J	CHIP R 100 J 1/10W CHIP R 100K J 1/10W CHIP R 10K J 1/10W CHIP R 100 J 1/10W CHIP R 100K J 1/10W		
R970 R971,972 R974,975 R977 R993			RK73GB2A153J RK73GB2A104J RK73GB2A104J RK73GB2A273J RK73GB2A101J	CHIP R 15K J 1/10W CHIP R 100K J 1/10W CHIP R 100K J 1/10W CHIP R 27K J 1/10W CHIP R 100 J 1/10W	X5E4E5	
Δ R997			RD14NB2E1R0J	RD 1 J 1/4W		
Δ K451 Δ K451 Δ K451 Δ K451 Δ S701-708			S76-0107-05 S76-0107-05 S76-0107-05 S76-0110-05 S70-0086-05	MAGNETIC RELAY MAGNETIC RELAY MAGNETIC RELAY MAGNETIC RELAY TACT SWITCH	K4K5P4 P5 6789 X5E4E5	
S709-715 S716-725 S731-733			S70-0086-05 S70-0086-05 S70-0086-05	TACT SWITCH TACT SWITCH TACT SWITCH	45	
S761,762 S763			T99-0663-05 T99-0664-05	ROTARY ENCODER ROTARY ENCODER		
Δ D401 Δ D451,452 Δ D453 Δ D454 Δ D455			D2SBA207009F01 1SS133 S1ZB20(7101) 1SS133 RB721Q	DIODE DIODE DIODE DIODE DIODE		
D500 D501-504			1SS302 1SS133	DIODE DIODE		

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## PARTS LIST

KRF-V7090D/VR-9050/9060/9070

HOW TO READ THE PARTS LIST  
ABBREVIATION OF MODEL AND MASS PRODUCTION'S DESTINATIONS

MODEL	ABB.	Australia	Canada	Europe	USA
		X	P	E	K
KRF-V7090D	4	-	-	E4	-
KRF-V7090D-S	5	X5	-	E5	-
VR-9050	4	-	P4	-	K4
VR-9050-S	5	-	P5	-	K5
VR-9060	6	-	P6	-	K6
VR-9060-S	7	-	P7	-	K7
VR-9070	8	-	P8	-	K8
VR-9070-S	9	-	P9	-	K9

\* New Parts  
Parts without **Parts No.** are not supplied.  
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.  
Teile ohne **Parts No.** werden nicht geliefert.

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
D776 D791 D801-806 D841 D842			MTZJ5.1(B) 1SS133 1SS133 RB721Q 1SS133	ZENER DIODE DIODE DIODE DIODE DIODE		
Δ D843 D844 D846 D961-964 ED78			RB721Q 1SS133 1SS133 1SS133 * HNA-16MM55T	DIODE DIODE DIODE DIODE FLUORESCENT INDICATOR TUBE		
Δ IC45 IC74 IC78			BA05T BU2090 * LC75711NED-E	ANALOGUE IC ANALOGUE IC MOS-IC		
Δ IC79 IC81			XC6202P502PR BU1924F	ANALOGUE IC ANALOGUE IC	X5E4E5	
IC84 IC90 IC90 Δ IC401 Δ IC402			S-80840CNY-GZ * MN101C49HYC * MN101C49HYD KIA7812API-UP KIA7912API-UP	ANALOGUE IC MICROPROCESSOR IC MICROPROCESSOR IC ANALOGUE IC ANALOGUE IC	89 4567	
IC502 Q451 Q512 Q731 Q776			BA4560F 2SC1740S(Q,R) 2SC4081(R,S) DTC113ZSA 2SC1740S(Q,R)	ANALOGUE IC TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR		
Q777,778 Q841 Q842 Q843 TH1			DTC124ESA 2SC1740S(Q,R) 2SA933AS(Q,R) DTC113ZSA * MF-R090-99	DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR THERMISTOR		
Δ A791			W02-4599-05	ELECTRIC CIRCUIT MODULE		

L : Scandinavia    K : USA    P : Canada    R : Mexico    C : China    I : Malaysia  
Y : PX(Far East,Hawaii)    T : England    E : Europe    G : Germany    V : China(Shanghai)  
Y : AAFES(Europe)    X : Australia    Q : Russia    H : Korea    M : Other Areas    Δ indicates safety critical components .

KRF-V7090D/VR-9050/9060/9070  
PARTS LIST

# KRF-V7090D/VR-9050/9060/9070

## SPECIFICATIONS (KRF-V7090D)

### AUDIO section

Rated power output during STEREO operation	
IEC (20 Hz ~ 20 kHz, 0.09% T.H.D., at 6 $\Omega$ ) .....	100 W + 100 W
DIN (1 kHz at 6 $\Omega$ ) .....	120 W + 120 W
Effective power output during STEREO operation	
RMS (1 kHz, 10% T.H.D., at 6 $\Omega$ ) .....	150 W + 150 W
Effective power output during SURROUND operation	
FRONT	
(20 Hz ~ 20 kHz, 0.09 % T.H.D., at 6 $\Omega$ one channel driven)	100 W + 100 W
(1 kHz, 0.7 % T.H.D., at 6 $\Omega$ one channel driven) ..	120 W + 120 W
(1 kHz, 10 % T.H.D., at 6 $\Omega$ one channel driven) ...	150 W + 150 W
CENTER	
(20 Hz ~ 20 kHz, 0.09 % T.H.D., at 6 $\Omega$ one channel driven)	100 W
(1 kHz, 0.7 % T.H.D., at 6 $\Omega$ one channel driven) ..	120 W
(1 kHz, 10 % T.H.D., at 6 $\Omega$ one channel driven) .....	150 W
SURROUND	
(20 Hz ~ 20 kHz, 0.7 % T.H.D., at 6 $\Omega$ one channel driven)	100 W + 100 W
(1 kHz, 0.7 % T.H.D., at 6 $\Omega$ one channel driven) ..	120 W + 120 W
(1 kHz, 10 % T.H.D., at 6 $\Omega$ one channel driven) ...	150 W + 150 W
SURROUND BACK	
(20 Hz ~ 20 kHz, 0.7 % T.H.D., at 6 $\Omega$ one channel driven)	100 W + 100 W
(1 kHz, 0.7 % T.H.D., at 6 $\Omega$ one channel driven) ..	120 W + 120 W
(1 kHz, 10 % T.H.D., at 6 $\Omega$ one channel driven) ...	150 W + 150 W
Total harmonic distortion .....	0.009 % (1 kHz, 50 W, 6 $\Omega$ )
Frequency response	
CD/DVD .....	10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB
PHONO 'RIAA' response.....	40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB
Maximum input level	
PHONO (MM) .....	40 mV, 1 % T.H.D., at 1 kHz
Signal to noise ratio (IHF'66)	
PHONO (MM) .....	75 dB
CD/DVD .....	95 dB
Input sensitivity / impedance	
PHONO (MM) .....	6 mV / 47 k $\Omega$
CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH	
.....	500 mV / 47 k $\Omega$
Output level / impedance	
MD/TAPE REC .....	500 mV / 1 k $\Omega$
PRE OUT (SUBWOOFER).....	1 V / 1 k $\Omega$
Tone control	
BASS.....	$\pm 10$ dB (at 100 Hz)
TREBLE.....	$\pm 10$ dB (at 10 kHz)
Loudness control	
VOLUME at -30 dB level .....	+6 dB (100 Hz)

### DIGITAL AUDIO section

Sampling frequency .....	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Input level / impedance / wave length	
Optical .....	(-15 dBm ~ -24 dBm), 660 nm $\pm 30$ nm
Coaxial.....	0.5 Vp-p / 75 $\Omega$

### VIDEO section

VIDEO inputs / outputs	
VIDEO (composite) .....	1 Vp-p / 75 $\Omega$
S VIDEO inputs / outputs	
S VIDEO (luminance signal).....	1 Vp-p / 75 $\Omega$
S VIDEO (chrominance signal) .....	0.286 Vp-p / 75 $\Omega$
COMPONENT VIDEO inputs/ outputs	
COMPONENT VIDEO (luminance signal) .....	1 Vp-p / 75 $\Omega$
COMPONENT VIDEO (CB/CR-signal).....	0.7 Vp-p / 75 $\Omega$

### FM tuner section

Tuning frequency range.....	87.5 MHz ~ 108.0 MHz
Usable sensitivity	
MONO .....	1.3 $\mu$ V (75 $\Omega$ ) / 13.2 dBf (40 kHz dev, S/N 26 dB)
STEREO.....	45 $\mu$ V (75 $\Omega$ ) / 42.1 dBf (40 + 6 kHz dev, S/N 46 dB)
Total harmonic distortion	
MONO (1 kHz, 40 kHz dev) .....	0.2% (65.2 dBf input)
STEREO (1 kHz, 40 + 6 kHz dev) .....	0.8% (65.2 dBf input)
Signal to noise ratio (DIN weighted at 1 kHz)	
MONO .....	65 dB (65.2 dBf input)
STEREO .....	60 dB (65.2 dBf input)
Stereo separation (1 kHz) .....	36 dB
Selectivity (DIN $\pm 300$ kHz) .....	64 dB
Frequency response (30 Hz ~ 15 kHz).....	+0.5 dB, -3.0 dB

### AM tuner section

Tuning frequency range.....	531 kHz ~ 1,602 kHz
Usable sensitivity (30% mod, S/N 20 dB) .....	16 $\mu$ V / (600 $\mu$ V/m)
Signal to noise ratio (30% mod, 400 Hz)	
.....	50 dB (60 dB $\mu$ V EMF input)

### GENERAL

Power consumption .....	300 W
Standby Power consumption .....	Less than 1.5 W
AC outlet	
SWITCHED .....	(total 90 W max.)
Dimensions.....	
W : 440 mm (17-5/16")	H : 159 mm (6-1/4")
D : 392 mm (15-7/16")	
Weight (Net) .....	11.9 kg (26.2 lb)

#### Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without no tice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).



# KRF-V7090D/VR-9050/9060/9070

## SPECIFICATIONS (VR-9050)

### AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven,  
at 8  $\Omega$  from 20 Hz to 20 kHz with no more than 0.09% total  
harmonic distortion. (FTC)

Effective power output during SURROUND operation

FRONT (20 ~ 20 kHz, 0.09 % T.H.D., at 8  $\Omega$  one channel driven)

..... 100 W + 100 W

CENTER (20 ~ 20 kHz, 0.09 % T.H.D., at 8  $\Omega$  one channel driven)

..... 100 W

SURROUND (20 ~ 20 kHz, 0.7 % T.H.D., at 8  $\Omega$  one channel

driven) ..... 100 W + 100 W

SURROUND BACK (20 ~ 20 kHz, 0.7 % T.H.D., at 8  $\Omega$  one channel

driven) ..... 100 W + 100 W

Total harmonic distortion ..... 0.009 % (1 kHz, 50 W, 8  $\Omega$ )

Frequency response

CD/DVD ..... 10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB

PHONO 'RIAA' response ..... 40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB

Maximum input level

PHONO (MM) ..... 40 mV, 1 % T.H.D., at 1 kHz

Signal to noise ratio (IHF'66)

PHONO (MM) ..... 75 dB

CD/DVD ..... 95 dB

Input sensitivity / impedance

PHONO (MM) ..... 7 mV / 47 k $\Omega$

CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH

..... 500 mV / 47 k $\Omega$

Output level / impedance

MD/TAPE REC ..... 500 mV / 1 k $\Omega$

PRE OUT (SUBWOOFER) ..... 1 V / 1 k $\Omega$

Tone control

BASS .....  $\pm 10$  dB (at 100 Hz)

TREBLE .....  $\pm 10$  dB (at 10 kHz)

Loudness control

VOLUME at -30 dB level ..... +6 dB (100 Hz)

### DIGITAL AUDIO section

Sampling frequency ..... 32 kHz, 44.1 kHz, 48 kHz, 96 kHz

Input level / impedance / wave length

Optical ..... (-15 dBm ~ -24 dBm), 660 nm  $\pm 30$  nm

Coaxial ..... 0.5 Vp-p / 75  $\Omega$

### VIDEO section

VIDEO inputs / outputs

VIDEO (composite) ..... 1 Vp-p / 75  $\Omega$

S VIDEO inputs / outputs

S VIDEO (luminance signal) ..... 1 Vp-p / 75  $\Omega$

S VIDEO (chrominance signal) ..... 0.286 Vp-p / 75  $\Omega$

COMPONENT VIDEO inputs / outputs

COMPONENT VIDEO (luminance signal) ..... 1 Vp-p / 75  $\Omega$

COMPONENT VIDEO (CB/CR-signal) ..... 0.64 Vp-p / 75  $\Omega$

### FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108.0 MHz

Usable sensitivity (MONO)

..... 1.3  $\mu$ V (75  $\Omega$ ) / 13.2 dBf (75 kHz dev, SINAD 30 dB)

50 dB quieting sensitivity

STEREO ..... 28  $\mu$ V (75  $\Omega$ ) / 40.2 dBf (75 kHz dev)

Total harmonic distortion

MONO (1 kHz, 75 kHz dev) ..... 0.5% (65 dBf input)

STEREO (1 kHz, 67.5 + 6.75 kHz dev) ..... 0.7% (65 dBf input)

Signal to noise ratio

MONO (1 kHz, 75 kHz dev) ..... 75 dB (65 dBf input)

STEREO (1 kHz, 67.5 + 6.75 kHz dev) ..... 68 dB (65 dBf input)

Stereo separation (1 kHz) ..... 40 dB

Selectivity ( $\pm 400$  kHz) ..... 70 dB

Frequency response (30 Hz ~ 15 kHz) ..... +0.5 dB, -3.0 dB

### AM tuner section

Tuning frequency range

..... 530 kHz ~ 1,700 kHz

Usable sensitivity (30% mod, S/N 20 dB)

..... 16  $\mu$ V / (600  $\mu$ V/m)

Signal to noise ratio (30% mod, 400 Hz)

..... 50 dB (60 dB $\mu$ V EMF input)

### GENERAL

Power consumption ..... 3.4 A

Standby Power consumption ..... Less than 1 W

AC outlet

SWITCHED ..... (total 150 W, 1.25 A max.)

Dimensions ..... W : 440 mm (17-5/16")

H : 159 mm (6-1/4")

D : 392 mm (15-7/16")

Weight (Net) ..... 11.7 kg (25.8 lb)

### Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

# KRF-V7090D/VR-9050/9060/9070

## SPECIFICATIONS (VR-9060)

### AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven, at 8  $\Omega$  from 20 Hz to 20 kHz with no more than 0.09% total harmonic distortion. (FTC)

Effective power output during SURROUND operation

FRONT (20 ~ 20 kHz, 0.09 % T.H.D., at 8 $\Omega$ one channel driven)	100 W + 100 W
CENTER (20 ~ 20 kHz, 0.09 % T.H.D., at 8 $\Omega$ one channel driven)	100 W
SURROUND (20 ~ 20 kHz, 0.7 % T.H.D., at 8 $\Omega$ one channel driven)	100 W + 100 W
SURROUND BACK (20 ~ 20 kHz, 0.7 % T.H.D., at 8 $\Omega$ one channel driven)	100 W + 100 W
Total harmonic distortion	0.009 % (1 kHz, 50 W, 8 $\Omega$ )
Frequency response	
CD/DVD	10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB
PHONO 'RIAA' response	40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB
Maximum input level	
PHONO (MM)	40 mV, 1 % T.H.D., at 1 kHz
Signal to noise ratio (IHF'66)	
PHONO (MM)	75 dB
CD/DVD	95 dB
Input sensitivity / impedance	
PHONO (MM)	7 mV / 47 k $\Omega$
CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH	500 mV / 47 k $\Omega$
Output level / impedance	
TAPE REC.	500 mV / 1 k $\Omega$
PRE OUT (SUBWOOFER)	1 V / 1 k $\Omega$
Tone control	
BASS	$\pm 10$ dB (at 100 Hz)
TREBLE	$\pm 10$ dB (at 10 kHz)
Loudness control	
VOLUME at -30 dB level	+6 dB (100 Hz)

### DIGITAL AUDIO section

Sampling frequency	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Input level / impedance / wave length	
Optical	-15 dBm ~ -24 dBm, 660 nm $\pm 30$ nm
Coaxial	0.5 Vp-p / 75 $\Omega$
Output level / impedance / wave length	
Optical	-21 dBm ~ -15 dBm, 660 nm $\pm 30$ nm

### VIDEO section

VIDEO inputs / outputs	
VIDEO (composite)	1 Vp-p / 75 $\Omega$
S VIDEO inputs / outputs	
S VIDEO (luminance signal)	1 Vp-p / 75 $\Omega$
S VIDEO (chrominance signal)	0.286 Vp-p / 75 $\Omega$
COMPONENT VIDEO inputs / outputs	
COMPONENT VIDEO (luminance signal)	1 Vp-p / 75 $\Omega$
COMPONENT VIDEO (CB/CR-signal)	0.64 Vp-p / 75 $\Omega$

### FM tuner section

Tuning frequency range	87.5 MHz ~ 108.0 MHz
Usable sensitivity (MONO)	1.3 $\mu$ V (75 $\Omega$ ) / 13.2 dBf (75 kHz dev, SINAD 30 dB)
50 dB quieting sensitivity	
STEREO	28 $\mu$ V (75 $\Omega$ ) / 40.2 dBf (75 kHz dev)
Total harmonic distortion	
MONO (1 kHz, 75 kHz dev)	0.5% (65 dBf input)
STEREO (1 kHz, 67.5 + 67.5 kHz dev)	0.7% (65 dBf input)
Signal to noise ratio	
MONO (1 kHz, 75 kHz dev)	75 dB (65 dBf input)
STEREO (1 kHz, 67.5 + 67.5 kHz dev)	68 dB (65 dBf input)
Stereo separation (1 kHz)	40 dB
Selectivity ( $\pm 400$ kHz)	70 dB
Frequency response (30 Hz ~ 15 kHz)	+0.5 dB, -3.0 dB

### AM tuner section

Tuning frequency range	530 kHz ~ 1,700 kHz
Usable sensitivity (30% mod, S/N 20 dB)	16 $\mu$ V / (600 $\mu$ V/m)
Signal to noise ratio (30% mod, 400 Hz)	50 dB (60 dB $\mu$ V EMF input)

### GENERAL

Power consumption	3.4 A
Standby Power consumption	Less than 1 W
AC outlet	
SWITCHED	(total 150 W, 1.25 A max.)
Dimensions	W : 440 mm (17-5/16")
	H : 166 mm (6-9/16")
	D : 396 mm (15-9/16")
Weight (Net)	12.0 kg (26.5 lb)

### Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

# KRF-V7090D/VR-9050/9060/9070

## SPECIFICATIONS (VR-9070)

### AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven,  
at 8  $\Omega$  from 20 Hz to 20 kHz with no more than 0.09% total  
harmonic distortion. (FTC)

Effective power output during SURROUND operation

FRONT (20 ~ 20 kHz, 0.09 % T.H.D., at 8 $\Omega$ one channel driven)	100 W + 100 W
CENTER (20 ~ 20 kHz, 0.09 % T.H.D., at 8 $\Omega$ one channel driven)	100 W
SURROUND (20 ~ 20 kHz, 0.7 % T.H.D., at 8 $\Omega$ one channel driven)	100 W + 100 W
SURROUND BACK (20 ~ 20 kHz, 0.7 % T.H.D., at 8 $\Omega$ one channel driven)	100 W + 100 W
Total harmonic distortion	0.009 % (1 kHz, 50 W, 8 $\Omega$ )
Frequency response	
CD/DVD	10 Hz ~ 100 kHz, +0 dB ~ -3.0 dB
PHONO 'RIAA' response	40 Hz ~ 20 kHz, +1.5 dB ~ -3.0 dB
Maximum input level	
PHONO (MM)	40 mV, 1 % T.H.D., at 1 kHz
Signal to noise ratio (IHF'66)	
PHONO (MM)	75 dB
CD/DVD	95 dB
Input sensitivity / impedance	
PHONO (MM)	4 mV / 47 k $\Omega$
CD/DVD, MD/TAPE, AV AUX, VIDEO 1, VIDEO 2, VIDEO 3, DVD/6CH	300 mV / 47 k $\Omega$
Output level / impedance	
TAPE REC.	300 mV / 1 k $\Omega$
PRE OUT (FRONT CHANNEL)	1 V / 500 $\Omega$
PRE OUT (CENTER CHANNEL)	1 V / 500 $\Omega$
PRE OUT (SURROUND CHANNEL)	1 V / 500 $\Omega$
PRE OUT (SURROUND BACK CHANNEL)	1 V / 500 $\Omega$
PRE OUT (SUBWOOFER)	1 V / 500 $\Omega$
Tone control	
BASS	$\pm 10$ dB (at 100 Hz)
TREBLE	$\pm 10$ dB (at 10 kHz)
Loudness control	
VOLUME at -30 dB level	+6 dB (100 Hz)

### DIGITAL AUDIO section

Sampling frequency	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Input level / impedance / wave length	
Optical	-15 dBm ~ -24 dBm, 660 nm $\pm 30$ nm
Coaxial	0.5 Vp-p / 75 $\Omega$
Output level / impedance / wave length	
Optical	-21 dBm ~ -15 dBm, 660 nm $\pm 30$ nm

### VIDEO section

VIDEO inputs / outputs	
VIDEO (composite)	1 Vp-p / 75 $\Omega$
S VIDEO inputs / outputs	
S VIDEO (luminance signal)	1 Vp-p / 75 $\Omega$
S VIDEO (chrominance signal)	0.286 Vp-p / 75 $\Omega$
COMPONENT VIDEO inputs / outputs	
COMPONENT VIDEO (luminance signal)	1 Vp-p / 75 $\Omega$
COMPONENT VIDEO (CB/CR-signal)	0.64 Vp-p / 75 $\Omega$

### FM tuner section

Tuning frequency range	87.5 MHz ~ 108.0 MHz
Usable sensitivity (MONO)	1.3 $\mu$ V (75 $\Omega$ ) / 13.2 dBf (75 kHz dev, SINAD 30 dB)
50 dB quieting sensitivity	
STEREO	28 $\mu$ V (75 $\Omega$ ) / 40.2 dBf (75 kHz dev)
Total harmonic distortion	
MONO (1 kHz, 75 kHz dev)	0.5% (65 dBf input)
STEREO (1 kHz, 67.5 + 67.5 kHz dev)	0.7% (65 dBf input)
Signal to noise ratio	
MONO (1 kHz, 75 kHz dev)	75 dB (65 dBf input)
STEREO (1 kHz, 67.5 + 67.5 kHz dev)	68 dB (65 dBf input)
Stereo separation (1 kHz)	40 dB
Selectivity ( $\pm 400$ kHz)	70 dB
Frequency response (30 Hz ~ 15 kHz)	+0.5 dB, -3.0 dB

### AM tuner section

Tuning frequency range	530 kHz ~ 1,700 kHz
Usable sensitivity (30% mod, S/N 20 dB)	16 $\mu$ V / (600 $\mu$ V/m)
Signal to noise ratio (30% mod, 400 Hz)	50 dB (60 dB $\mu$ V EMF input)

### GENERAL

Power consumption	3.4 A
Standby Power consumption	less than 1 W
AC outlet	
SWITCHED	(total 150 W, 1.25 A max.)
Dimensions	W : 440 mm (17-5/16") H : 166 mm (6-9/16") D : 396 mm (15-9/16")
Weight (Net)	12 kg (26.5 lb)

### Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

